WHOLE EARTH Review

TOOLS AND IDEAS FOR THE COMPUTER AGE

No. 47 JULY 1985 $3 (No Advertising)

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FLYING SAUCERS IN SAN FRANCISCO P.42

DIGITAL RETOUCHING

e end of photography as evidence of anything

8A

9

- Ursula LeGuin
- Anne Herbert
- Clubbing seal pups — the other side of the story

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A Juvenile Democracy

by Robert Gnaizda

drawings by R. Crumb

Only 1 in every 100 people on this planet has a sufficiently solid democratic culture that he or she can feel secure about attempting to transmit it to other environments.

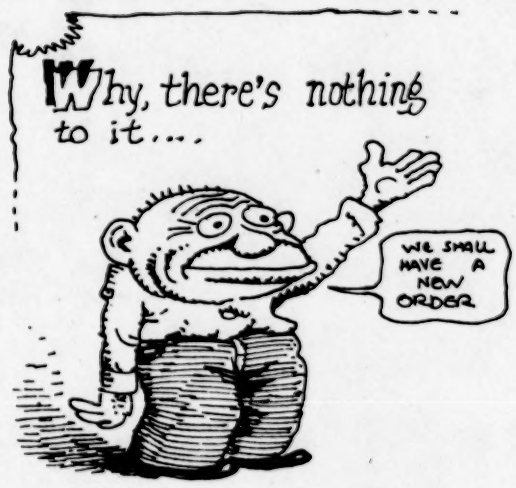
The United States does not qualify as such a democracy.

No stranger to the character of democracy, public advocate Bob Gnaizda conducted a 1965 congressional hearing in Mississippi to investigate why no blacks voted in black-majority Clay County. Answer: because our country was not what we claimed to be. Bob Gnaizda later argued that we could use a little realism where democracy hits our checkbooks in "The Simple Tax: Common Sense Government" for CQ *#38. The* San Jose Mercury News *first printed this scrutiny of democracy last year July 1.* —*Kevin Kelly*

THIS JULY FOURTH marks 209 years of independence from Great Britain and the 196th year of our republic under the present Constitution. So we've been at the democracy game a long time, or so we like to think.

Then why did Congress kill a bill to provide 15 cents per American for the National Endowment for Democracy, to lend aid and comfort to freedom's brave and isolated friends?

Think of all the fine places to which we could export democracy. In China, President Reagan found that one billion people with a continuous culture 20 times longer than our entire history were so uninterested in democracy that his remarks were censored.



We righteously censured the Chinese leaders, comfortable with our own democratic credentials. But look back a mere 20 years: If a Briton had sought to address the white population of Mississippi on July Fourth to expound on the virtues of voter democracy without regard to race, he not only would have been censored, but probably beaten up.

Our claim to democracy, then, is not so entrenched. Perhaps we should redefine our claim in a way that may be quite humbling, but could be helpful in appreciating why it may be best to leave our democracy where it is rather than spread it too thin.

A country shall be defined as a democracy if:

1. It provides to the entire population, without regard to sex or race, full and equal access to the ballot box and permits opposition parties, and

2. Such a system has been in operation for two full generations or 50 years.

The latter criterion is important because all nations ebb and flow in cycles of liberalism and repression. Japan and West Germany may not be permanent democracies, and we can't predict a nation's course without looking at a minimum commitment. Certain cultural heritages take practice.

Under this simple and apparently reasonable definition, few people have lived in a democracy for very long. Fewer than 50 million adults, out of almost 5 billion on this planet, are part of a democratic culture that has existed for two or more generations. That is, only 1 in every 100 people on this planet has a sufficiently solid democratic culture that he or she can feel secure about attempting to transmit it to other environments.

The United States does not qualify as such a democracy, since it denied the vote to blacks, who represented 25 percent of the population in 11 Southern states, until the Voting Rights Act 20 years ago. And California should refrain from smugness, since it has its own legacy of denying basic human rights: Not until after World War II did California courts uphold the right of Filipino Americans to marry whites and Asian residents to own land.

Switzerland is disqualified because until very recently it denied the vote to women. U.S.-created democracies such as Germany and Japan do not yet qualify under the two-generation requirement. And nations such as Australia and New Zealand are disqualified due to their recent anti-Asian voting policies. France fails because of its Vichy/Nazi government of World War II.

While some might suggest that the great Greek city-state of Athens should qualify, historians have made clear that the extraordinary democratic traditions of Athens were limited to the one-fourth of the population that was free, and were continuously denied to the three-fourths that were enslaved.

The only countries that appear to clearly qualify are Great Britain, Canada, and Sweden, two of which are still nominally headed by a monarch. These qualifying democratic countries have an aggregate adult population of fewer that 50 million.

Since the turn of the century, when President McKinley sacrificed half a million Catholic Filipinos in the name of Christianity and democracy, U.S. policy has focused on expanding, often by force of arms or economic muscle, the number of nations with democratic governments.

Few Americans would suggest that a particular religious theory should dominate world policies, even though many religions have long-term credentials. Buddhism, Hinduism, and Judaism have existed for at least 40 or more centuries, or 40 times longer than any present democracy, and have a present population exceeding one billion.

Yet many Americans continue to support the imposition of democracy on Third World nations, no matter how poor, illiterate, desperate, or otherwise unequipped they may be. As we have seen in El Salvador, we can set up voting booths, but the results may not please a high school civics teacher.

Five years ago, President Carter exhorted us not to participate in the Olympics because of the Soviet threat to "democracy" in Afghanistan, a nation that had always denied suffrage to women and land ownership to peasants. And this July Fourth, politicians will exhort us to preserve "democracy" in various parts of the world, such as the Persian Gulf kingdoms and Central American military regimes.

So the next time some politician or political body asks that you or your children be sent to fight for democracy in a far-off desert or jungle, consider this: Our nation has but one scant generation of a truly democratic government and fewer than 50 million adults, none of whom live in America, live in a well-established democracy. ■

WHOLE EARTH Review

Number 47 **FEATURES** *July 1985*

1 A Juvenile Democracy
by Robert Gnaizda

4 A Tale of Ice and Wild Dogs of the Sea
by Bryce and Margaret Muir
Clubbing seal pups: the other side of the story.

26 Cartoon History of the United States, Part II
by Larry Gonick
"Biased, pedantic, insufficiently reverent, and probably best ignored."

34 Pioneer Enterprises in Regeneration Zones
by Robert Rodale
The role of small business in regional recovery.

42 Digital Retouching
by Stewart Brand, Kevin Kelly, Jay Kinney
The end of photography as evidence of anything.

76 One Highly Evolved Toolbox Evolves Some More
by Jay Baldwin

92 Random Kindness and Senseless Acts of Beauty
by Anne Herbert
Excerpts from the forthcoming book.

FICTION

20 Always Coming Home
by Ursula LeGuin

DEPARTMENTS/REVIEWS

LAND USE

13 Handbook of North American Indians ☐ American Indian Myths and Legends

14 The Monkey Wrench Gang ☐ Ecodefense

16 Beautiful Swimmers ☐ Life in the Chesapeake Bay

17 The Audubon Society Field Guide to North American Fishes, Whales and Dolphins ☐ M. Montagne Fly Rods ☐ Thomas & Thomas

18 Stokes Nature Guides ☐ The Audubon Society Handbook for Butterfly Watchers ☐ Leaves

19 Native Seeds/SEARCH ☐ Natural Pest Control ☐ Big Wheeler Carts

WHOLE SYSTEMS

24 The Comet Book ☐ Dark Skies for Comet Halley ☐ The Bedrock Geology of the World

SMALL BUSINESS

39 Past Due

COMMUNICATIONS

50 Cinefex ☐ The Video Production Guide

51 Good Movies *by Sheila Benson*

52 Utne Reader ☐ Liebe

58 Installing Your Own Telephones ☐ Monitor America

64 African Pop! *by Stephen Davis*

NOMADICS

67 Access to Nicaragua *by Dick Fugett*

71 Designing and Building Your Own Frameset ☐ Bike Nashbar/Performance Bike ☐ Mirrycle

72 How Professionals Find Real Overseas Jobs *by Will Cantrell*

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COVER

At 10:07 A.M. on Wednesday, April 3, 1985, amateur photographer Steven Burrows was waiting to cross Columbus Avenue in San Francisco's North Beach district when he suddenly "felt a compulsion to look to the right." "There was no sound," he reported later, "no special sound at all. But I saw something by the Transamerica Building that I knew wasn't a helicopter. It had a different kind of motion — not only faster but kind of darting, like a bird. I was reaching for my camera when the other two came into view. Luckily I had left the camera on f/5.6 and 1/500th of a second shutter speed, so I was able to stop the motion on those things. I got four good frames."

Scores, possibly hundreds, of people saw the "saucers," but Burrows apparently was the only one who got pictures. According to UFO experts they are the most detailed — and most plausible — photographs ever made of the elusive craft. Why three "saucers" showed up at this particular place and time is unknown, but there is speculation that the pyramidal shape of the Transamerica Building might have had something to do with it. Lying with words is so much easier than lying with pictures. Details, page 48.

—Stewart Brand

SOFT TECHNOLOGY

75 Build the New Instant Boats
☐ How to Build the Gloucester Light Dory

80 How the Other Half Builds
☐ Passive Annual Heat Storage

81 The Eastwood Company
☐ The Progress Drum Stovepipe Oven
☐ Natural Cycle Cooling System

COMMUNITY

82 The Small Community

83 WIN News ☐ Sisterhood is Global

84 Child Life Play Specialties, Inc.
☐ Creative Publications
☐ Children's Recordings

85 HearthSong ☐ My Child's Destiny
☐ Growing Child

86 Over the Hill . . . But Not Out to Lunch!
☐ Astrodent ☐ The Essential Guide to Nonprescription Drugs

87 Mountain Ark Trading Company ►
87 ☐ Kurtzman's Mushroom Specialties
☐ The Mushroom Cultivator

88 Vintage Clothing Newsletter ☐ Cameleon all-purpose garment ☐ Hands On!

89 Designer's Guide to Color
☐ Theatre Craft How-To

LEARNING

99 Beyond the Hotline

BACKSCATTER

100 Echoes from readers back to *Whole Earth Review*

GATE FIVE ROAD

103 Gossip ☐ Financial Report

104 *WER* Update ☐ Masthead
☐ Subscriptions
☐ "Or Whole Earth Access"
☐ "Or Computer Literacy"

105 **Index 1984**

121 Point Puzzle ☐ Thank You

WHOLE EARTH SOFTWARE CATALOG
VERSION 1.4

PLAYING

25 LIFE ☐ The Recursive Universe

90 TYCOON ☐ MINDWHEEL

ACCOUNTING

30 BACK-TO-BASICS

31 ONE-WRITE PLUS

39 The Journal of Financial Software and Hardware

MANAGING

30 MAC-BARCODE

32 LIGHTYEAR

33 HIGGINS

LEARNING

31 THE WHATSIT CORPORATION

91 PUZZLE TANKS ☐ PARIS EN METRO

ANALYZING

32 PC-CALC ☐ EQUATE

HARDWARE

40 Through the MicroMaze

57 The Endless Apple ☐ Omni-Reader

DRAWING

40 Thunderscan/MacVision

53 MACPUBLISHER

WRITING

54 The Joy of Integrated Word Processing *by Charles Spezzano*

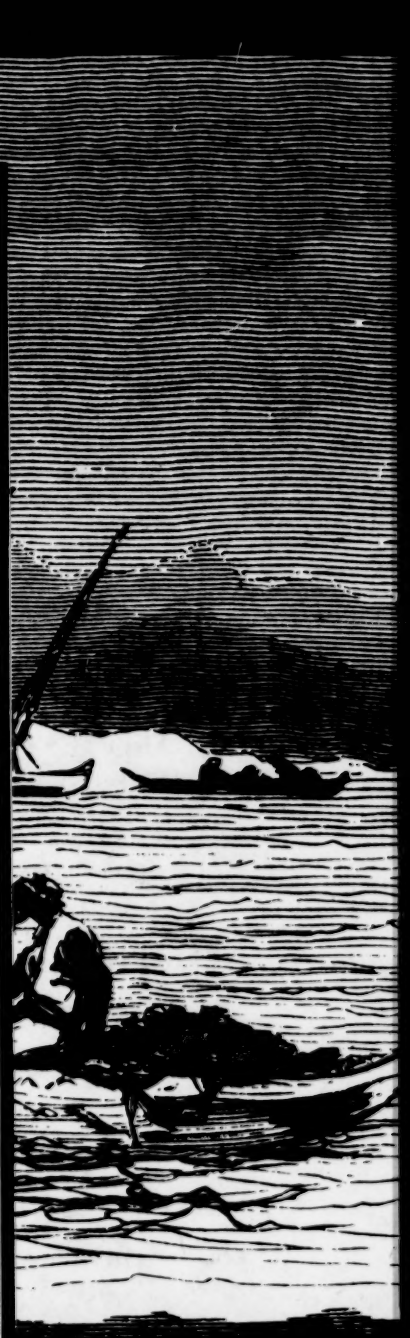
TELECOMMUNICATING

59 PLAYNET

ETC.

60 Interactive Video *by Fabrice Florin*

A Tale of Ice and Wild Dogs of the Sea



IN WHICH A YANK ENCOUNTERS CANADIAN BABY SEAL HUNTS

by Bryce and Margaret Muir

JANUARY 1975

THE WIND BLOWS most all the time in the Magdalen Islands. When the Gulf of Saint Lawrence is icebound, it is an arctic wind. Sweeping over icefields and frozen dunes, wind-driven snow streams across the stark landscape, whirls around the brightly-painted houses, and settles deep in the lees.

Hepzibah, our '48 Dodge pickup, is making a lee. I've finally given up the struggle. If that old flathead wants to sleep in a snowbank, it's OK with me. I'll walk. Or stagger, to be more accurate. You have to lean into the wind and tack to get anywhere. I'm staggering around the bay to Louis' boatshed: about nine miles by road. After a storm, when the road is blocked, I'll cut across the bay ice and save four-five miles, if I don't get turned around in the whiteouts. One thing about this sort of hiking: you don't stop to admire the scenery.

By the time I get there, Louis' unheated boatshed looks right cozy. I lurch in with a swirl of snow. Louis smiles and remarks, "No night to sleep out without a blanket." I agree.

Louis is building a 44-foot fishing boat: spruce on oak, smooth planked, clench fastened. Usually Louis is a solitary builder: horsing massive timbers, wrestling long planks into place, clenching up as he goes — by himself. But Louis and I have found a kindred spirit.

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*Our invitation for nastier complaints about toxic environmentalism couldn't be refused by Bryce and Peggy Muir. "We've had our finger in this dike for ten years now, and when we let her gush, you get a tome." Toymaker Bryce and anthropologist Peggy arrived in the Magdalen Islands, Quebec, in 1974 to do field work for Peggy's doctorate on women's roles within two fishing villages. "It immediately became apparent that Peggy would have no access to the men's world in this totally sex-segregated environment, and Bryce's position as toymaker would cause too much confusion, so Bryce was cast in the role of male informant." As in the previous two stories we've printed by them (*CQ *#30, p. 74 and* CQ *#34, p. 40), "Peggy is the anthropologist/analyst/idea-smith, Bryce is the reporter/mouthpiece/legman."*

They've settled down, down east in Maine. —*Kevin Kelly*

When I asked if I could work with him for the learning, he said: "Yes. But I'll pay you wages and found, same as anyone else." So here I am spiking on plank with Louis' old forge hammer.

I had thought to learn something about traditional boatbuilding, and I am. I'm astounded that anyone can build a rugged seagoing fishboat from a rough carved half-model with only a handful of tools. No lofting, no band saw, no sophisticated la-de-da: just a sure hand, a keen eye, and traditional knowledge. I'm learning more than boatbuilding, however. Louis is turning my intellectual self-assurance on its ear.

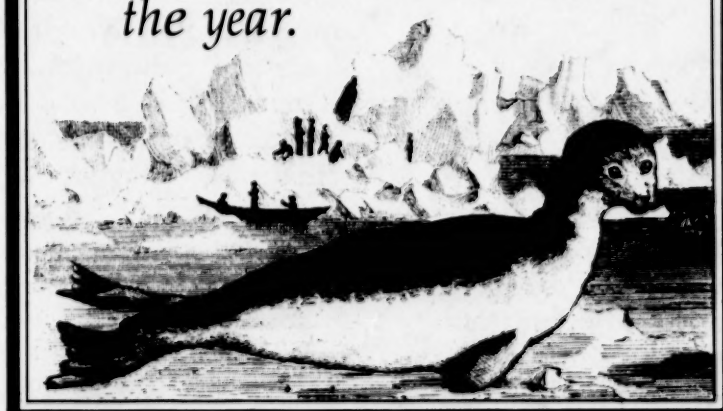
Louis asks dangerously innocent questions. The other day I shattered a chisel with a hammer blow. Louis asked "Why does metal shatter on very cold days?" Where do you begin to "explain"? My molecular physics is vague to begin with, and Louis doesn't know the elementary abstractions. But I plunge on, starting with atoms. Not a bad impromptu lecture, I think to myself, wrapping up Physics 101. Then Louis asks, "Does that have anything to do with why the sky is that particular blue on those days?" Wait a minute. How does the quality of light relate to the brittleness of steel? My abstractions don't lump together that way.

This questioning goes on all day. Louis sticks his head outdoors, makes an observation, and asks a question. Before long the apparently random sequence of questions begins to make remarkable sense. Louis' knowledge is utterly different from mine. I have collected an assortment of scientific abstractions, from which file I can pull "explanations" of observed phenomena. Louis has spent a lifetime watching the pattern of natural events within his ken, and knows the relationships between the parts. After a while I shut up. When Louis asks "Why . . . ?," I honestly say: "I'm not sure, Louis. What do you think?"

Louis might not know "why," but he sure knows what, how, and when. He can't tell you about high-frequency wavicles scattering in the upper atmosphere, but he can look at the sky and tell you it's a chisel-cracking day. The depth of Louis' ecological knowledge, how all the threads weave together (wind and fish, ice and sky, plankton and bird), is an eye-opener. This sort of local knowledge is a life's work. More than that: Louis refers to things which happened in his grandfather's time. Eventually I'm asking all the questions.

The gap between academic science and local knowledge is nothing new. The practical man has always known that idealized abstractions are like Sunday shoes: good for dress-up, but hard on the feet. The environmental movement, unfortunately, often neglects to temper its idealistic notions with common sense. An ideological campaign to "save the environment," funded by armchair ecologists, may result in severe dislocations of local economies and extreme distortions of local ecologies. A case in point is the harp seal hunt in the Gulf of St. Lawrence. ►

Me and Uncle Willie
We goes out to the ice
When we hear the whitecoats
bawlin'
And their pelts will fetch
a price.
Wild dogs of the sea
They whelp in the spring of
the year.



"WHERE fishermen in the Magdalens see seals as part of the web of life, environmentalists see them as sacred animals."

FEBRUARY

Louis' boat is planked, and he's futzing with engine beds. Now I'm helping build Gee's new 30-footer. I want to fish this summer with Gee, and I know he hasn't promised anyone else a place as bowman. He's sizing me up. Gee likes Ay's hull model, so he's asked Ay to build the boat. With the three of us working steady, plus Ay's son or brother working bytimes, Gee's boat will be got out in a month — start to finish.

Ay's boatshed is right in the middle of the village we're living in. It's a main stop on the men's daily round. Island men are all up before daylight, checking the weather, spying for ducks, smelting, fixing the Ski-doo — and visiting. Men see everyone in their personal network, face-to-face, every day, and Ay's boatyard is a central meeting place. His barrel stove is always roaring. There's always enough beer. And somebody is always telling lies.

This time of year the talk is mostly sealing. In winter the harp seal herds come down out of the arctic to whelp on the ice off northern Newfoundland and in the Gulf of St. Lawrence; then to feed on the spring-run herring and capelin as the ice retreats. Magdalen Islanders hunt adult seals with rifles — and club seal pups for their valuable pelts. Sealing provides these men some hard-earned dollars in a place and season where cash is rare and precious. Yes: this is the brutal slaughter of "baby" seals we've all heard about.

The islanders are a bit touchy about the seal hunt protest. You'll get an earful if you say "Greenpeace" or "Brian Davies." But the yarning seldom has to do with protesters. The talk is about ice and seals.

Islanders go out on the ice on foot, in crews of three to five, dragging a 12- to 15-foot boat. This sealing "flat" has a galvanized shoe over a wide keel, and is designed to be dragged, rowed, or used as a bridge; empty, or (hopefully) full of pelts. The gulf ice is not one solid floor, but an everchanging mix of ice pans, cakes, snow, slush, and open water. Great plates of ice, some acres in extent, whirl and drift with wind and tide: jamming together here, packing loose slush into solid footing; wheeling apart there, leaving the unwary dancing on a bobbing mass of loose cakes. Slush is the worst. You can't walk on it, and you can't row through it. And the tides are playful, changing swiftly and unpredictably. With the whole St. Lawrence watershed behind them, the gulf tides run like a torrent past the Magdalens — and around them, in eddy and gyre. So the talk is about tides, too.

"Remember the time old Harv ran for six hours on the running ice, just keeping East Point in sight, until the tide turned?"

Early on we realized that sealing is the rite of passage to adulthood for men in these villages. Although not all men hunt seals each year, they all have once — and then gone fishing as a bowman. It makes sense. Men fish in pairs here, and it's crucial that a bowman be dependable. One way to find out is to take him on the ice in a larger crew and put him to the test. "Torment him" a little. I wanted to fish, so I asked to join a sealing crew. Seeing me set off across the bay to Louis', navigating by the wind on my face, convinced Gee I might be good for it — so I was to go sealing. They'd have some fun with "the Yank."

The Yank is just a little dubious about hunting seals. I've seen the doe-eyed pictures of cute and cuddly "baby" seals. As a ten-year-old in Maine I had found an abandoned (or orphaned) harbor seal pup on the ledges, and tried to rear it. I even tried to teach it to swim, a bit prematurely. I'll never forget those little flippers clutching my leg, and the pup mewling plaintively as the surges came up around us. But then I've also seen seal run herring out of a weir and punch huge holes in a precious net. I'm delighted by the curious creatures, but recognize them as fierce competitors. I admire a seal's grace in the water, and am amused by his antics ashore, but I won't pretend that seals are fellow humans, just a cosmic wrinkle away from singing folksongs about men. But can I smash a seal pup over the head with a club?

LATE FEBRUARY

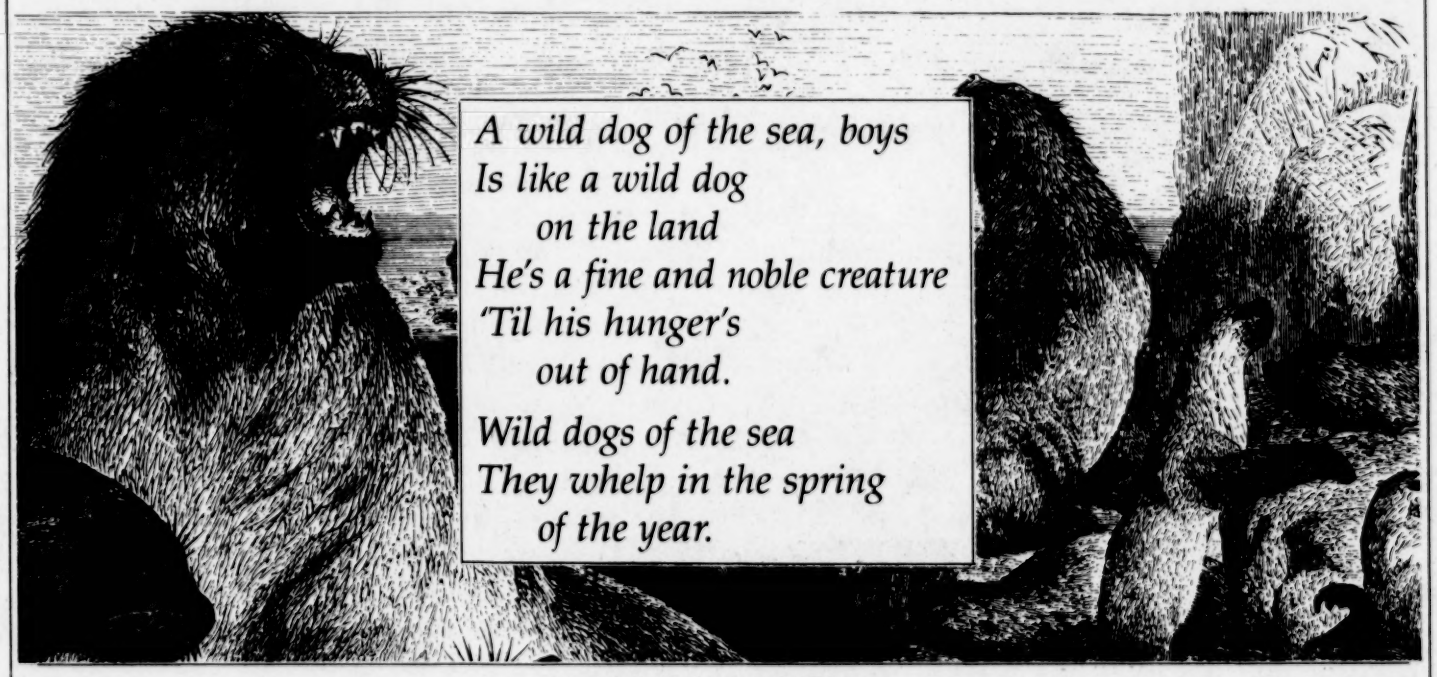
I'm swinging a hammer in Ay's boatshed while the boys parle. Again I'm struck by how these men see their world. They all are outdoorsmen: hunting and fishing is their life. Every day they are out sampling the environment, reading sign, observing every nuance in the changing balance. They each have their own ideas about how it all fits together, and they test their theories trying to make a living outside. And they yarn about it.

"That time Jimmy first went on the ice, remember? We came to some black ice, and when you said 'run' he stopped dead, and we had to fish him out. He did a lot of running after, 'til he dried up."

So the tales go. At first I think, "These are just good stories." Then I notice they all have some object lesson thrown in. Finally it dawns on me that these guys are teaching me: what to expect on the ice, and how to behave. They *are* great stories, and everyone enjoys them, but these men are gracefully instructing me and trying to scare the starch out of me. Maybe even save my neck.

Some seal hunt protesters would have us believe that sealing is a barbarous blood-sport: ignorant sealers reveling in gore for the sake of killing. I never heard an islander speak of killing with any relish. They would address the subject, though. They see killing as a necessary part of their livelihood.

"What do they think about a fish you haul up from 12 fathom, kicking on your line? Doesn't it have life? Should we not kill fish, too?" No, the boatshed yarns weren't about the thrill of killing, they were about the hazards of the chase.


A wild dog of the sea, boys
Is like a wild dog
on the land
He's a fine and noble creature
'Til his hunger's
out of hand.
Wild dogs of the sea
They whelp in the spring
of the year.

EARLY MARCH

The days are noticeably longer, but the wind off the ice still bites. I've got on the "creepers" (spikes) which Louis forged up for me in his parlor coal stove. Everyone had a good laugh when I made a pair of Esquimau sunglasses (two slits in a piece of leather), and proceeded to trip over every snowbank. Now I have some yellow goggles that I sent upwest for. They make this ice wilderness even weirder, if that's possible. I'm supposed to meet Gee and El at a big ice pile just off the west beach at dawn. I'm hoofing. They're coming across the bay by Ski-doo, pulling the flat on a sled.

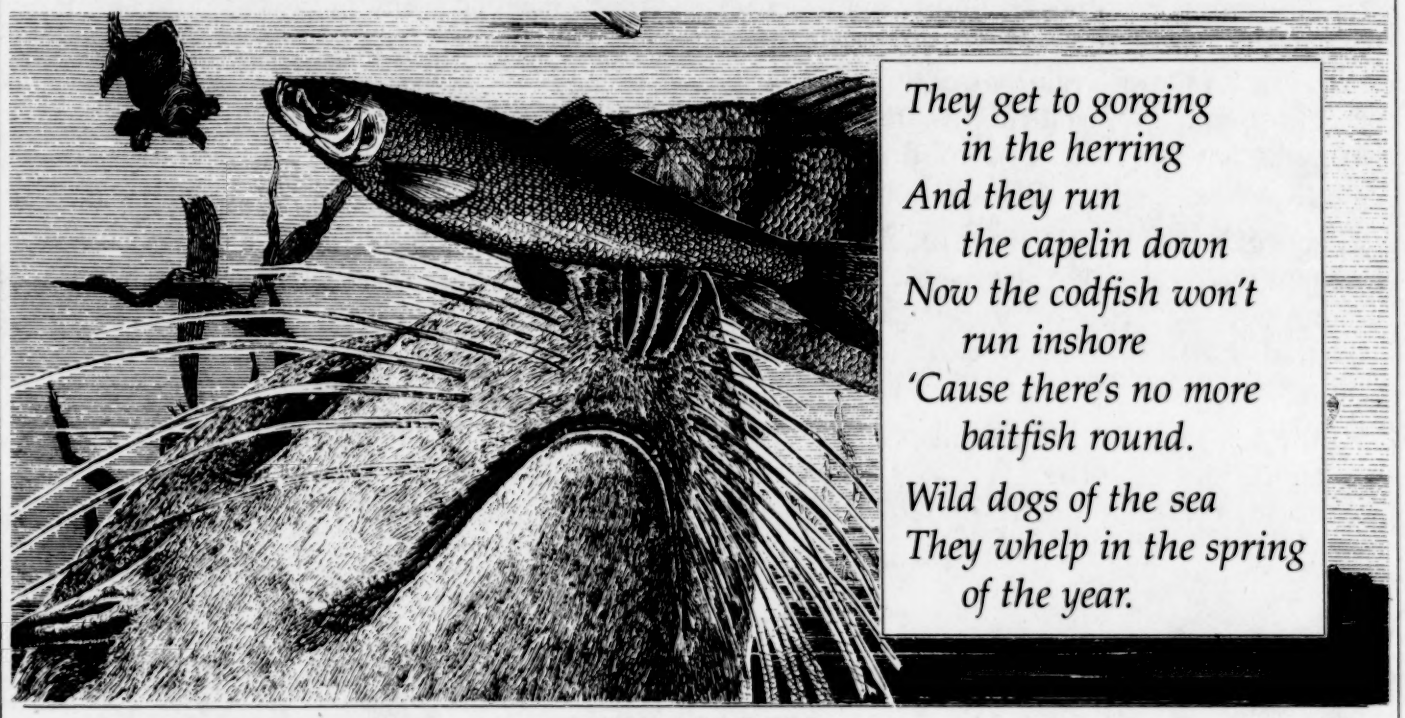
I'm wondering what I've gotten myself into. I don't like going onto a frozen pond, and here I am marching out over the ocean? Actually it's not that bad.

The ice pile I'm aiming for is at the outer edge of the "stuck ice," where the wind-driven pans have rafted up onto the shoals. The road I'm on is as firmly anchored as ice can be.

The light is spreading behind me, and the pressure ridge ahead looms up like some jagged mountains of the moon. Never have I been in so unfamiliar a world. I'm humming a mindless ditty, thinking about the tea in my thermos, about those molasses cookies in my pack. NOT thinking about all that salt water down below. Humming. I don't appreciate how hard I'm listening to the wind blow by until I finally hear Gee's Ski-doo buzzing. Remarkable how friendly a Ski-doo can sound as it rushes up to you. "You made it, eh?" Gee smiles. I'm grinning foolishly.

Hunt protesters used to fly journalists out to the pupping ice and set them down on a big

pan among the sealers, knowing that the shock of all that blood, and the image of a slaughter of the innocents, would resonate in their reports. An urban society which no longer butchers its own meat is easily shocked at the sight of blood. The fact that numerous humane society studies have determined that clubbing and exsanguinating a seal pup makes for a quick and painless death cannot stop the shock. No wonder the folks back home think that the kill is what's important. Had those journalists walked out across the moving ice, dragging a small boat, they might understand why it is called a *hunt*.



They get to gorging
in the herring
And they run
the capelin down
Now the codfish won't
run inshore
'Cause there's no more
baitfish round.

Wild dogs of the sea
They whelp in the spring
of the year.

LATE MARCH

We are crouched behind the upturned flat alongside a glade (a lake of open water surrounded by ice-fields) about three miles off the stuck ice. The whelping ice is nowhere to be seen. Some years the pupping ice never does come within reach of the islands, and virtually all the pups escape. Right now the near edge of the harp nursery is a dozen miles off the west end of the archipelago.

We are hunting old harp (adults) which are feeding all around the islands. You can't hunt adults on the pupping ice (by law), so they escape to breed again, those years the islanders get into the whitecoats. Hunting old harp means shooting them in the water with a high-powered rifle. It's not easy to hit a seal's head at a hundred yards. Gee and El chose this glade because it is the right size. Too small and the odds of a seal rising in it are poor. Too big and the seals are too far away to hit. After spotting the glade from the ice pile we hauled the flat out to it over a startling variety of uncertain ice. At one point we had run across black ice leaving trails of footholes where the sea bubbled up. I had been told not to let go of my thwart rope. I hadn't.

Now we have the flat's white bottom turned up for a blind and are breathing easy while the sun glitters on the ice. Suddenly two seals surface in the glade and gallop along the far edge, heads bobbing. Gee and El open up with their .30-30s. One seal stops dead in the water. "Wait here!" they shout. Dragging the flat off the big pan and across a jumble of small pans and snow, they launch it and quickly row to gaff the seal.

When they return, I'm stunned. This seal is twice as big as I am. Gee and El are wrestling it up onto a small pan while I haul up the flat. That's when the tide shifts. In an instant the pan they are on starts to wheel and spin away from me, and I'm left hopping from foot to foot on loose cakes. "The flat!" they bellow, and I realize I'm holding a boat to jump into. As I leap they shout, "Your spikes!" and they laugh themselves foolish when I end up with both feet in the air, trying not to jab holes through the light planking with my creepers.

When we finally get back to the big pan, El sculpts the seal. My god but a bull harp is a big animal. Even his fatted pelt weighs as much as I do, it seems. Now the flat is blooded: its bow rubbed with blood to christen it. My christening is coming up. Gee and El are snickering as they lace up the pelt (tie it with rope) and hand me the loose end. "OK. We've done all the work so far. You can haul this back to the Ski-doo while we spy for another one." A couple-three miles? By myself? Pulling this thing across that stuff? Well, I'm foolish enough to try anything. So I pull on the rope. Nothing. It doesn't budge. I pass the rope over my shoulder and lean

"THE protest against sealing amounts to one thing: killing seals is not nice."

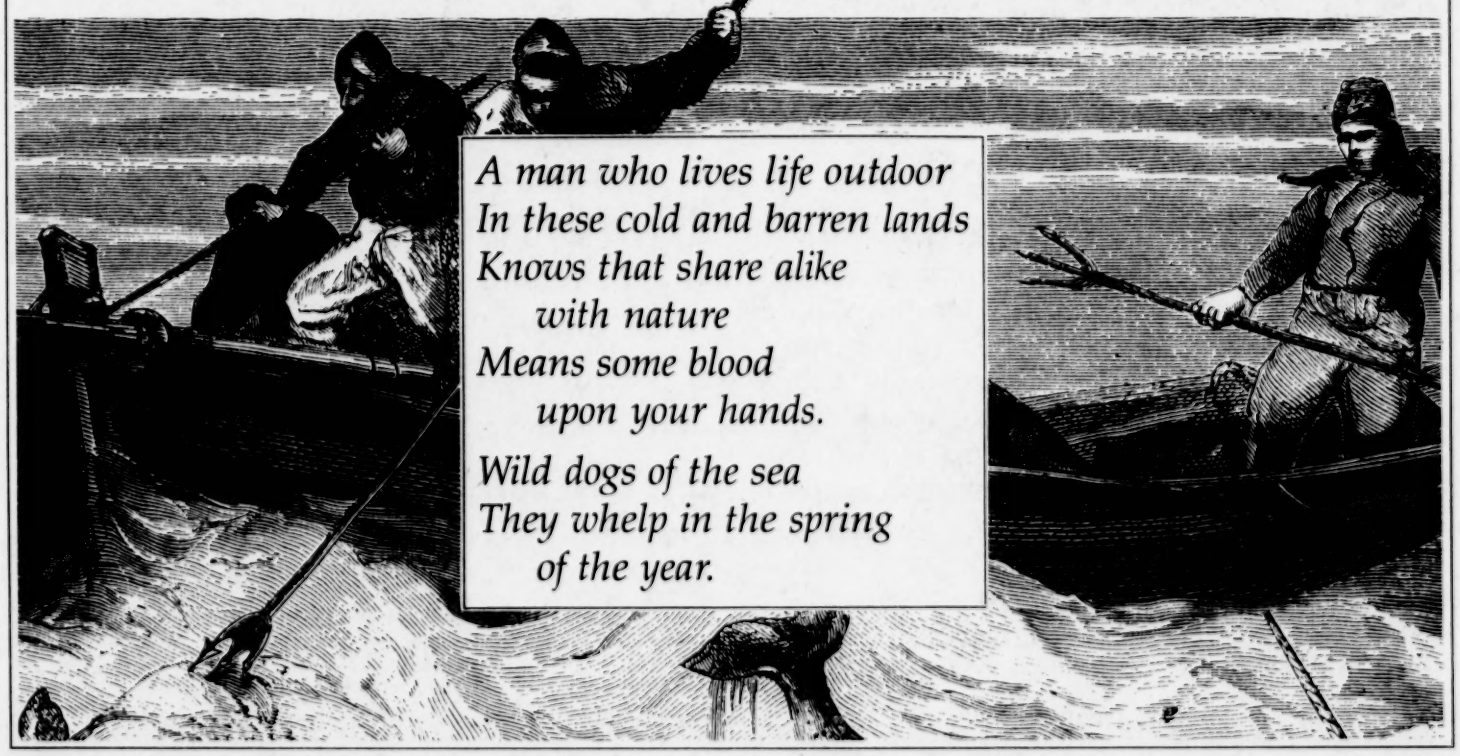
into it. God it tows hard. I'm getting blowed. When I get to the first incline, where I want to go up, it goes down — into a hole. Here I am sweating and straining and cursing — and losing it. Gee and El are on their backs howling with delight. They had laced the pelt up backwards, so I was pulling against the grain of the hairs: like trying to push a car with the handbrake set. Oh, they had some fun with the Yank.

Perhaps that's what Brian Davies and his ilk find most unforgiveable about sealing: sealers enjoy it. "Isn't this a great sport?" they'll roar when the ice shifts and you have to run for it. How can anyone be lighthearted when their business is killing innocent creatures?

We've come a long way from our rural heritage. Most of us came by our understanding of wildlife via Walt Disney. The Bambification of nature makes rational analysis of wildlife management difficult. Protesters speak of seal "mothers" and "babies" with all the connotations of human child-rearing. This sensibility is a bit misplaced in the case of harp seals. After a bitch harp whelps (or, if you prefer, after a mother seal has her baby), she nurses the pup for about a month and then leaves it for good. So much for mother-love. Adult harp males and females travel in separate herds except at pupping time (they mate immediately after whelping). The weaned pups ride the ice until they shed their infant whitecoat. Then they take to water and feast on the spring-run schools of fish. These "beaters" eventually join the herd of immature and adolescent harps ("bedlammers"), which doesn't go to the pupping ice in the spring. Seal family life is not the stuff of movie romance.

We share a mammalian instinct to nurture with the seals, no doubt. A bawling whitecoat with big brown eyes certainly elicits our instinctive desire to cuddle and protect. Unfortunately some of us forget there is a time to every purpose. We've distorted our nurturing instinct into a doctrine of the sanctity of life (at least mammalian life). The results are all around us. Our cities and suburbs are full of stray cats because we are too kindhearted to kill unwanted kittens. We are raising breeds of untrainable dogs because we blame ourselves when pooch proves unmanageable, and the pounds are full of dogs nobody will kill. To the amusement of many farmers, back-to-the-land homesteads are full of pet pigs and geese and whathaveyou, because it would be cruel to eat them. These are noble sentiments, but inappropriate to a rural, resource-based economy.

Magdalen Islanders haven't been enlightened by Disney. Although they enjoy playing with and caring for kittens and puppies and piglets, when there are too many kittens, when a dog is incorrigible, when it's time to butcher the pig, an islander will kill an animal quickly, without guilt. When protesters tell him it's wrong to kill animals, he'll wonder where they get their hamburger. ►



A man who lives life outdoor
In these cold and barren lands
Knows that share alike
with nature
Means some blood
upon your hands.

Wild dogs of the sea
They whelp in the spring
of the year.

"How many men in these islands fifty years from now will be able to tell you where the herring aren't, from a flight of birds and a stray seal?"

EARLY APRIL

Last night the pupping ice stuck on at the west end of the islands. The call went out by phone and CB, and we loaded flats on pick-ups and raced the forty miles to this beach. One crew had gotten into the whitecoats yesterday evening before dark drove them ashore. Now every sealer in the islands is perched high on this ice ridge, staring intently into the pre-dawn gloom to westward. Daylight reveals no seals. The tide has shifted. There is a great stretch of open water a couple miles offshore, and even on the ice beyond there is no sign of the herd: in particular, no sign of the big black island crows which scavenge on the pupping ice. Gee is determined to search the near ice for pups, so we start dragging the flat over these Himalayan ice "clumpers." I'm still astounded these guys can find a road through this wilderness. It looks impassable to me. Great jagged masses of ice, now tinged with coats of blue from recent sleet-storms. Gee finds a road, but no seals. In one place I look down into a crack between two big pans, and the oily, half-frozen water is whirling around just like a washing machine. Later today we will hear that another sealer stepped through the ice about half a mile from us — and disappeared. The tidal currents must have whirled him away. A man in his forties with a wife and five children. His crew had come onto a patch of seals and separated. When his crewmen looked for him back at the flat, he was gone.

One herd of harp seals comes into the Gulf of St. Lawrence through the Straits of Belle Isle each winter. Somewhere northwest of the Magdalens, female seals begin tending a hole in the forming ice sheets. Swimming great distances to feed, they will repeatedly return to their breathing holes. When the ice has made and a bitch is ready to pup, she mounts the ice and whelps on this mobile nursery, surrounded by hundreds of thousands of her kind. On the pupping ice she and her whelp are relatively secure from "natural" predators: polar bear, arctic fox, and killer whale.

The harp nursery is prey to wind and tide, though. The herd which whelps on the ice east of Newfoundland, in the open Atlantic, may see oceanic storms break up the pupping ice after whelping time, and an entire "year-class" of whitecoats will be lost. Similarly, the gulf herd may encounter an unusually mild winter, and the females will pup on shore or otherwise lose all their pups.

Like other mammals, harp seals can adapt their fecundity to environmental conditions. Harps mate after whelping, but do not conceive then. Females carry the live sperm and then either conceive or not, depending. This ability to respond to natural catastrophes, such as a spring storm on the pupping ice, has enabled the herd to survive the extreme hunting pressure men have inflicted.

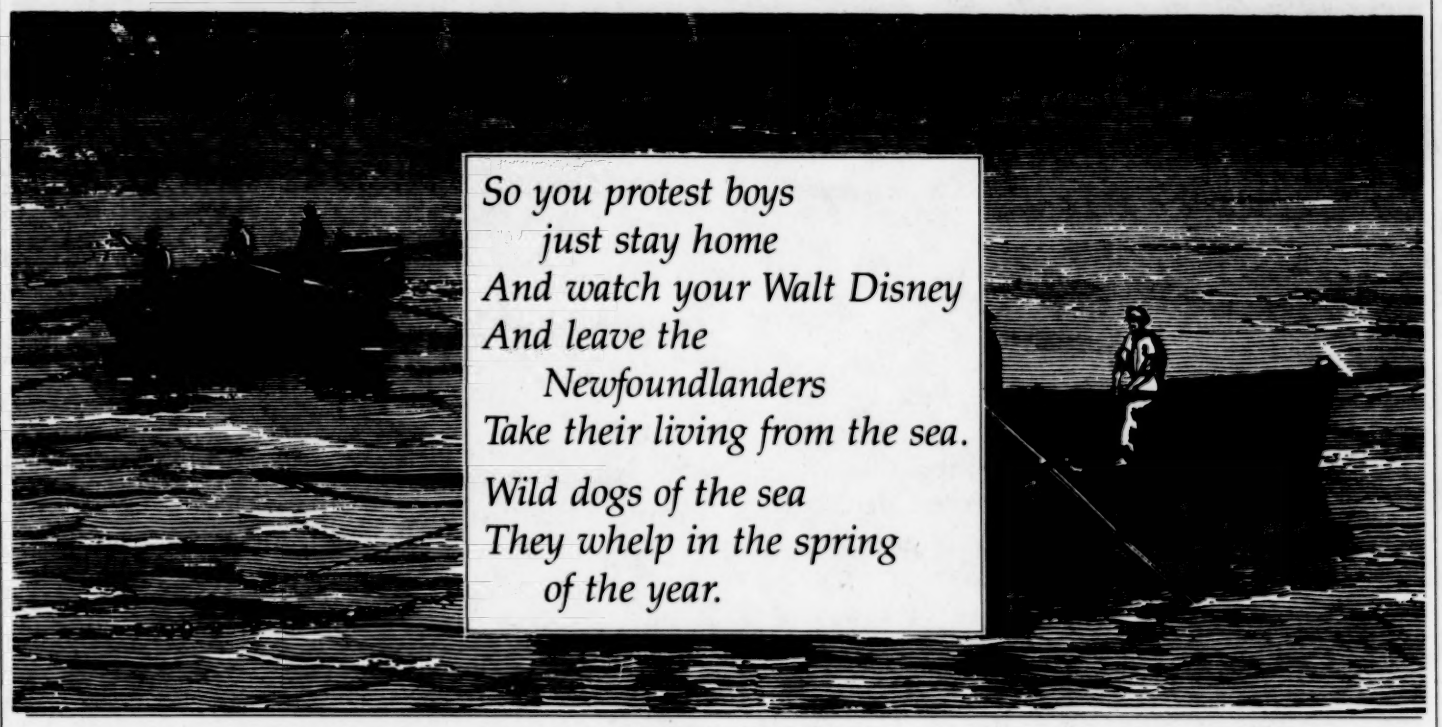
The hunting *has* been extreme. It should be observed, first, that the seals have been hunted as long as there have been men along these shores. Among the few traces left by the Maritime Archaic Indians are great middens of seal bones. We are not talking about some untouched wilderness species. Harp seals have adapted to man's presence, and vice versa. But the level of seal hunting got out of hand in the late fifties. Mobile ice-breaker fleets, capitalized in Europe, and airborne sport hunters from mainland Canada slaughtered millions of seals.

In this era the great anti-sealing protest was born. Brian Davies had his epiphany on the gulf ice in the early sixties, when he rescued two whitecoats from the casual (and probably cruel) butchery of some flying sports. The outcry he and others made awakened the Canadian government. They set about the most extensive analysis of a marine harvest ever undertaken — with the world press breathing down their necks. They determined that the harp seal herds were, indeed, endangered and that seals were being inhumanely killed in some cases. Canadian authorities immediately set restrictive kill quotas, severely limited fleet hunting, banned airborne hunting, and established an extensive network of professionals to monitor the herd, police the

hunt, and instruct licensed hunters in humane killing techniques. Now the harp seal hunt is the most regulated fishery in the world, and the herds are recovering. There is no scientific evidence that the herds are now endangered.

The hunt protest was a great success. The seal herds are now protected from overexploitation, and will grow to the level of "maximum sustainable yield" — healthy herds in a healthy environment. But that isn't enough for the protesters. To them, "wildlife management" is just a euphemism for killing wild animals, and killing wild animals is wrong.

When all the smoke (about endangered species, or cruel and inhumane killing, or the unnecessary luxury of killing for fur coats) blows away, the protest against sealing amounts to one thing: killing seals is not nice.



LATE APRIL

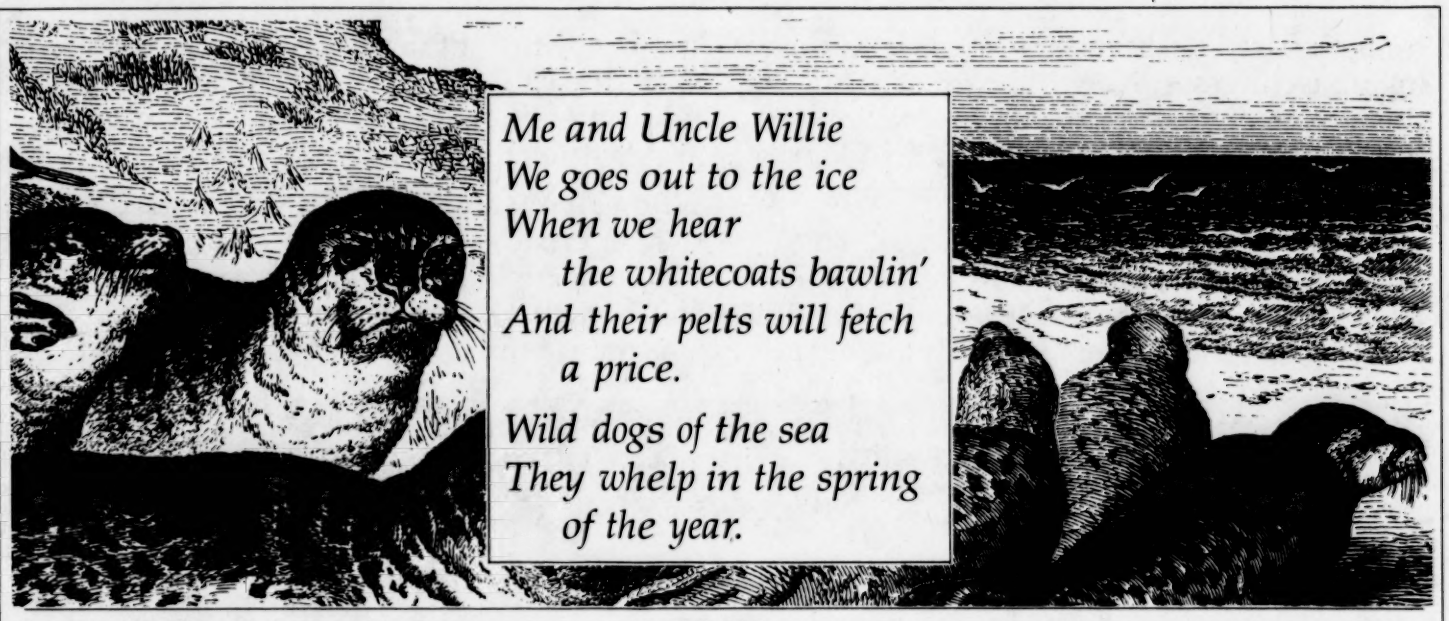
The ice is going out fast now, breaking up in the warm sunshine and streaming past East Point on its way to Cabot Strait. The old harps are long gone, but the beaters are still riding the ice, feeding on the herring. We've launched Gee's new boat and are out hunting beaters among the drifting floes. It's mostly snap-shooting as seals bob up occasionally here and there. Some seals are snoozing in the sun on the drift ice, and we shoot them when we can, or land on the ice and rush up to club them before they jump. I discover that in the mad dash on rolling mushy ice I can, in fact, smash a seal pup over the head and cut open his major arteries. I also find out that these "baby" seals weigh upwards of 75 pounds. Not the cuddly bundle I might have expected. But the beaters are too mobile and scattered for us to find many. As the sun declines, the windowpane ice is getting thick enough to threaten the boat's hull. We hear it tinkling alongside. Gee asks, "Shall we let her smoke for back?" We guess so.

Hunt protesters can only see the horror of killing "baby" seals. Their special knowledge (killing is wrong) is not balanced by a local perspective. This is too often the problem with environmentalist ideology. It's ironic that those who espouse a bioregional ethic are often the first to condemn traditional local wisdom about regional resources. Where fishermen in the Magdalens see seals as part of the web of life, environmentalists see them as sacred animals: marine mammals, our brothers in the deep. Richard Cashin, president of the Newfoundland Fisherman's Union, calls this "The New Paganism."

The seal protectors seem to forget that seals eat fish. Adult harps gobble down more than a ton of fish a year, each. There are well over a million seals. Every year harps eat more fish than local fishermen catch. Worse than that: local fish stocks are severely depleted.

Magdalen Island fishermen had to stand by and watch foreign industrial fleets scoop off the gulf's rich fish stocks during the last generation. Today the fleets are banned, but the once immense local herring fishery is dead. Now zealous environmentalists tell them they must stand back while the sacred cows eat up what's left of the corn.

Once there were vast schools of baitfish to feed the great seal herds. No more. The rapidly recovering seal population must be managed to achieve a healthy balance between fish and seals and men. That means killing seals. Killing them humanely. Killing them young, when they can be caught on the ice, and before they eat their tons of fish. ►


Me and Uncle Willie
We goes out to the ice
When we hear
the whitecoats bawlin'
And their pelts will fetch
a price.
Wild dogs of the sea
They whelp in the spring
of the year.

MAY

The start of the lobster season was postponed until there was enough herring for bait. Now we're setting out our gear. There isn't wharf space along the breakwater for everyone's traps, so we had 20 trawls on top of a cape, all baited and ready to go. The race to load and set out on the best bottom began at first light when a fisheries officer fired the starting gun. The ladies then lowered traps over the cliff to us until Gee's boat was piled to heaven. Now we are wallowing in the swells on the Middle Shoal, and I'm trying to run off a trawl without getting all tangled up.

As I grab the next trap, it mews at me. "Hold it. Hold it." Gee shouts. I jam the trap under the washboard, as Gee cuts the power and brings us round. He bursts into a roar of laughter. A kitten had gotten into this trap last night to feast on fresh herring and had been caught like a lobster. We fish her out, and Gee makes a bed for her in the engine-house with his coat. Running in for our next load, Gee fondles and strokes the thief. "Where did you think you were going, kitty?" he asks.

The seal hunt protest was good medicine. It brought the hunt into balance with the gulf's ecology and economy. Now we've had too much of a good thing. The formula is guaranteed: circulate pictures of "baby" seals being slaughtered, and see how the money (and adulation) rolls in. Brian Davies travels with the jet set, alongside such ardent environmentalists as Brigitte Bardot. Pretty good for a small-town humane society volunteer. Anti-sealing contributions ring the cash register for Greenpeace and other noble organizations. So we will hear all about blood on the ice again next year. These toxic environmentalists are not about to kill the golden goose. They can't even kill Old Honky for Christmas dinner. It's just not nice.

JUNE

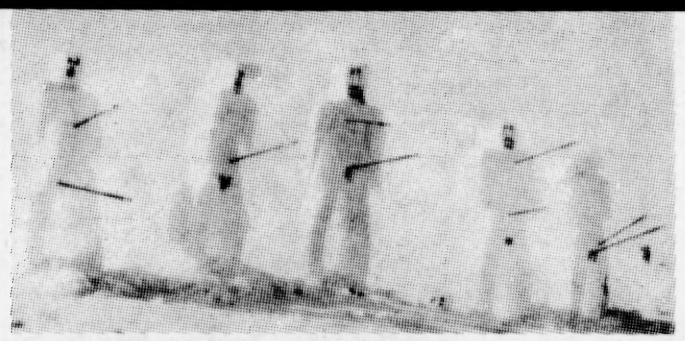
Full gale. No fishing today. I've dropped in on Louis. We are sitting in his kitchen, sipping scalding tea thick with canned milk and sugar. Louis and I haven't spoken a word for about ten minutes. This gift of silent camaraderie is something I'd never enjoyed before I met Louis. The windows are steamed up from dinner boiling on the cookstove, and the rain is streaming down outside.

Eventually Louis speaks. "Herring scarce to Old Harry?" Gee and I have gillnets set for bait off Old Harry Head, and they've not been fishing the last two days. How Louis knows this is beyond me. He hasn't been within eight miles of Old Harry all week.

"Do you have the sight, Louis?" I tease him. "Oh, no," he smiles. "What with this moon and that cowmore (grey seal) inside, and the black-backs, I just wondered."

Louis was simply reading sign, watching an old pattern repeat. How many men in these islands fifty years from now will be able to tell you where the herring aren't, from a flight of birds and a stray seal? The island way of life is changing, and local knowledge may give way before an academic marine ecology. Will the new knowledge factor men's lives into the ecological equation? Can fisheries biology be as egalitarian as two fishermen squabbling for a trap berth? Will economic planners be able to measure self-worth alongside income levels?

Louis and I are staring at the dripping windows. Sometimes it's more rewarding to be silent than to pretend you know the answers. ■

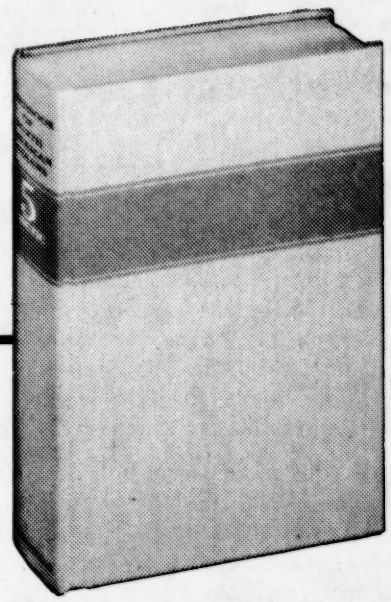


Cutting figures — men, women, caribou — from firm snow as part of an archery game used to sharpen a bowman's skill.

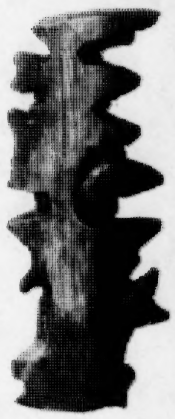
The Handbook of North American Indians

PETER WARSHALL: This is the sixth volume to be published in a distinguished twenty-volume series summarizing just about everything known about native Americans and their history (including religion) from the most current archaeological knowledge. It thoroughly covers twenty-one different Eskimo (and Aleut) groups that have survived in the land of midnight sun and lightless winters, straddling the Arctic Circle from Siberia to eastern Greenland. Of particular interest is the story of the confrontation between Greenland Eskimos and Norsemen during the four centuries from 1,000 A.D. to 1400 A.D., when the Norse disappeared. It goes on the the incredible varieties of shamanism; the ecological dependence on meat; the elegant writing of Bernard Saladin D'Anglure on the Inuit of Quebec; and the updating on Eskimo life in the Alaskan Land Claims Era. A must for anyone slightly curious about Eskimo culture.

Making a sledge at Pelly Bay. Driftwood was rare so wooden sledges were not common. Runners were made from frozen fish wrapped in sealskin with caribou antler pieces tied as crossbars with sealskin lines. A sludge of pulverized moss and water was then put on the underside of the runner in a thick coat, frozen, coated with ice, and rubbed with wet polar bear fur to produce a hard, resistant coat of ice that allowed the sledge to run smoothly. →



The Handbook of North American Indians
(Volume 5: The Arctic)
David Damas,
Volume Editor
1984; 845 pp.
$29
postpaid from:
Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
or Whole Earth Access

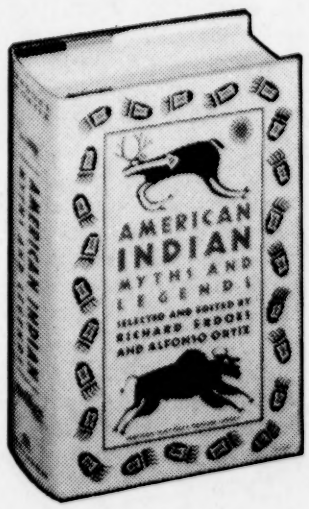


(Right) Wooden maps [of Greenland coasts]: above, representation of the coast between Kangersuttuassiaq and Sieralik; bottom, islands off the coastline of the peninsula between Kangersuttuassiaq and Sermilgaaq. Carved by Kunit from Umiivik.

American Indian Myths and Legends

PETER WARSHALL: A quiet, powerful flowering is taking place in American literature. Novelists of (at least partial) American Indian descent (James Welch, Leslie Marmon Silko, Scott Momaday) and translators from both native American and Euro-American backgrounds (Sun Tracks Press writers or Robert Laughlin of the Smithsonian) have found comfortable soil and strong roots. Their tales are no longer nostalgic or written in stilted prose or self-consciously imitative of Old World fairy tales. The humor, the outrageous concatenation of events, the calmness concerning death, and the relaxed narrative have all been honed true. This collection and retelling of American Indian stories is the latest in the seemingly endless outpouring of fine and refined writings that spring from Turtle Island heart. If you want one book of North American soul to read out loud to your friends, listen to the dawn song, then buy this book.

American Indian Myths and Legends
Selected and edited
by Richard Erdoes
and Alfonso Ortiz
1984; 544 pp.
$20.95
postpaid from:
Random House
Attn: Order Department
400 Hahn Road
Westminster, MD 21157
or Whole Earth Access



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THREE-LEGGED RABBIT FIGHTS THE SUN

The origin of this tale is not precise. Ella Clark only notes that it comes from a Western Rocky Mountain tribe.

Once there was a rabbit with only three legs, but he made a wooden leg for himself so that he could move fast.

At the time the sun was very hot, and Rabbit said to himself, "I'll go and see what the problem is." As he hopped along toward Sun, he found it getting hotter every day.

"The only thing on earth that doesn't burn," said Rabbit, "is cactus." So he made a house of cactus to stay in during the day, and he traveled only at night.

When he came to the east, he rose early in the morning and ran toward the place where Sun should appear. He saw the ground boiling and knew that Sun was ready to come up. Rabbit stopped, sat down, and took out his bow and arrows.

When Sun was about halfway out of the earth, Rabbit shot. His first arrow hit the heart and killed Sun. Rabbit stood over the corpse and cried: "The white part of your eye will be clouds." And it was.

"The black part of your eye will be the sky."

And it was.

"Your kidney will be a star, your liver the moon, and your heart the dark."

And they were.

Then Rabbit said to Sun, "You will never be too hot again, for now you are only a big star."

Sun has never been too hot since, and after that day, rabbits have had brown spots behind their ears and on their legs. Their rabbit's fur was scorched during the journey, long, long ago, to see why Sun was so hot.

The Monkey Wrench Gang • Ecodefense

STEWART BRAND: Two books about taking semi-violent direct action to preserve wilderness. ***Ecodefense*** *is the new nonfiction one, by the redoubtable Dave Foreman of Earth First!, inspired by the ten-year-old fiction one,* ***The Monkey Wrench Gang****, by Ed Abbey. (Its new hardcover edition has cover and illustrations by cartoonist R. Crumb and a fine surreal four-page chapter, "Seldom Seen at Home," left out of the original edition.) The novel is exciting and funny. The field guide is exciting and scary.*

Both are competent books. Abbey's tale of four passionate defenders of the canyon country of the Southwest wreaking clandestine havoc on the forces of development is high romance, kept honest by his personal clarity of character and his rich knowledge of that desert country. A good read, whether or not you elect to join up. If the book were made into a movie, it would no doubt unleash as many outlaw environmentalists as ***War Games*** *inspired young hacker/crackers — hundreds, maybe thousands.*

Ecodefense *would be their manual. In it they would find proven techniques of tree spiking, road spiking, disabling heavy equipment, fence cutting, trap clearing, lock jamming, billboard trashing, and sundry skills of propaganda, camouflage, sneaking around, escape and evasion, and the like. Fascinating stuff; best not to skim and try, but really study before trying — for two good reasons. One is that monkeywrenching mostly takes place in country where retribution is not in the courts but also by direct action: you get the living shit beat out of you. The second is that monkeywrenching the wrong target is grotesquely counterproductive; you have not only to be right every single time, but conspicuously right, or you're just another random vandal making everyone else feel sick about being alive. The book constantly warns about knowing your target cold before making a move, and if in doubt, don't.*

That's just the technical level. For the heavier matter of ends-justifying-means and all that that unleashes, the discussion boils over into "Backscatter," p. 100.

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Hayduke said, "I'd like to knock down some of them power lines they're stringing across the desert. And those new tin bridges up by Hite. And the goddamned road-building they're doing all over the canyon country. We could put in a good year just taking the fucking goddamned bulldozers apart."

"Hear, hear," the doctor said. "And don't forget the billboards. And the strip mines. And the pipelines. And the new railroad from Black Mesa to Page. And the coal-burning power plants. And the copper smelters. And the uranium mines. And the nuclear power plants. And the computer centers. And the land and cattle companies. And the wildlife poisoners. And the people who throw beer cans along the highways."

"I throw beer cans along the fucking highways," Hayduke said. "Why the fuck shouldn't I throw fucking beer cans along the fucking highways?"

"Now, now. Don't be so defensive."

"Hell," Smith said, "I do it too. Any road I wasn't consulted about that I don't like, I litter. It's my religion."

"Right," Hayduke said. "Litter the shit out of them."

—The Monkey Wrench Gang

"AS THE TIPOVER POINT APPROACHED THE TRACTOR ATTEMPTED (SO IT SEEMED) TO SAVE ITSELF: ONE TREAD BEING MORE ADVANCED INTO THE AIR THAN THE OTHER, THE TRACTOR MADE A LURCHING HALF-TURN TO THE RIGHT, TRYING TO CLING TO THE RIM OF THE MESA AND SOMEHOW REGAIN SOLID FOOTING."

The Monkey Wrench Gang
(Tenth Anniversary Edition)
Edward Abbey
1985; 356 pp.
$19.45
postpaid from:
Dream Garden Press
1199 Iola Avenue
Salt Lake City, UT 84104

Ecodefense
(A Field Guide to Monkeywrenching)
Dave Foreman, Editor
1985; 197 pp.
$10 postpaid from:
Earth First!
P. O. Box 5871
Tucson, AZ 85703
or Whole Earth Access

A bridge timber spike and singlejack hammer for use with very large trees. Smaller spikes are fine for general use and can be driven in with a heavy standard hammer.

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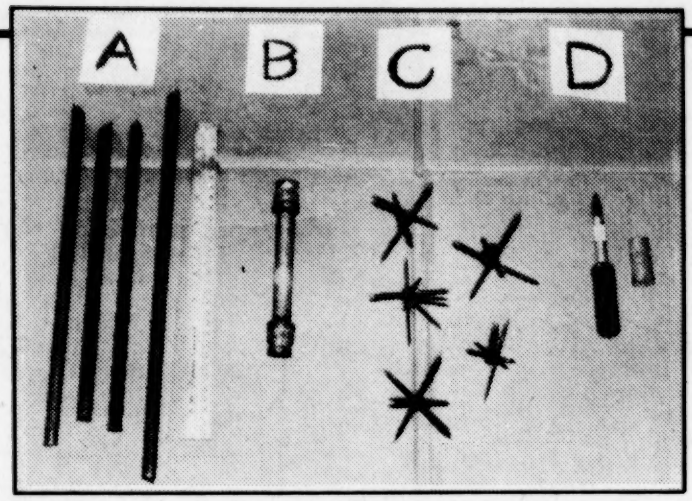
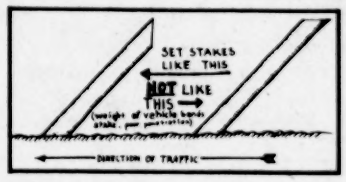
TREE SPIKING

Tree-spiking is an extremely effective method of deterring timber sales, which deserves to be employed far more widely than heretofore. Mill operators are quite wary of accepting timber which has a likelihood of contamination with hidden metal objects — saws are expensive, and a "spiked" log can literally bring operations to a screeching halt, at least until a new blade can be put into service. The Forest Service is nervous enough about tree spiking that it has failed to publicize past events, for fear that the practice might spread.

There are two basic philosophies of tree-spiking. Some people advocate spiking the base of each tree (i.e., driving several nails at an angle into the first two or three feet of the trunk above the ground). The object of this method is to impede the sawyer in the felling of the tree. Certainly, hitting a nail with a chainsaw will halt operations, at least until the chain can be replaced. But this method has one quite serious drawback — the very real possibility that the feller might be injured in the process, either by the kickback of the bar when the nail is struck, or by the flying chain, should it break. An incident like this would probably be counterproductive in the long run, and besides, it is not really necessary to spike trees in this manner. This leads us to the second method of spiking — to drive large nails into the trunk well above the area where a feller would operate. The object of these nails is to destroy blades in the sawmill. Since in large mills the





Use of the road spike driver: Place the driver over the sharpened end of the rebar stake and hammer it in.

A) Road spikes made of rebar (with ruler for scale). B) Road spike emplacing tool. C) Caltrops. D) Tire slasher.

blades are operated from a control booth some distance from the actual cutting, this method is unlikely to cause anyone injury, even if the blade should break in the process of hitting the nail, an unlikely event in any case. It is true that in small, "backyard" sawmills the operator might be standing close to the blade, but we are assuming that anyone contemplating spiking will be doing it on large timber sales, where the trees are destined for a corporate, rather than a family, operation. . . .

The value of the spiking is in its deterrent effect. After the trees are spiked, the fact of the spiking must somehow be made known. If this is made known before the timber has actually been sold — which is the most effective time to do it — the spiking can have an amazingly dampening effect on competitive bidding — that is, if the Freddies don't simply cancel the sale, which is a real possibility. . . .

The basic tools of the spiker are a large hammer and a bunch of large nails. Don't make the mistake of using too small a hammer — one should carry a hammer of the "single-jack" variety (a one-handed sledgehammer) with a head of 2½ to 3 pounds. As for the nails, they should be reasonably large, but one should bear in mind that the larger the nails, the more time and energy are required to drive them. Perhaps the ideal size would be a 20 penny (20d) nail. This nail is about 6¼ inches long and is the largest "common" nail readily available in building supply stores. . . .

Since the more trees that are spiked, the greater the deterrent factor, one nail per tree ought to be sufficient. For a major timber sale, to spike several hundred trees might be a worthy goal, but even a few dozen spiked trees would be of some value. The trees should be spiked at various intervals above the ground, and some effort should be made to camouflage them, unless the spiking is several years in advance of the sale, in which case nature will camouflage the nails by growing over them. In any event, the nails shold be driven in flush, and the heads may be disguised (over the short term) by pitch, bits of bark or paint. . . .

In certain cases where tree spiking has occurred, the Forest Service has gone to the considerable trouble of sending investigators into the field with metal detectors to try and locate all of the spikes. Later, crews have been sent in with crowbars to remove all of the spikes which the metal detectors have found. This is obviously a costly process for the Freddies (it has usually been done in cases in which the timber had already been sold prior to spiking) and it is not surprising that the authorities have made it clear that they intend to prosecute anyone apprehended for spiking. In some cases the Freddies have offered rewards amounting to thousands of dollars for information leading to the arrest and conviction of "spikers."

•

It is important to remove billboards. It is also important not to get caught (so we can remove more billboards). I have always felt that burning billboards (particularly in desert situations) is most effective. But it is somewhat "revealing" when a 50 foot high sign explodes in front of your very eyes, and those of who knows who else, lighting up everything around for half a mile. But there is a solution.

SCORE hair cream and swimming pool cleaner. I'm completely serious. My friend Oscar explained it to me. Now I will tell you. Here are the ingredients you will need:

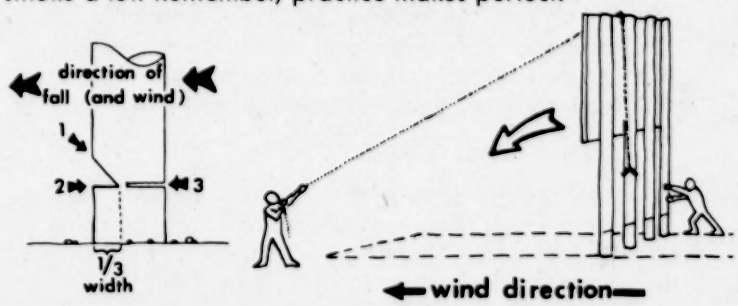
1 envelope
1 tube *SCORE* hairdressing
1 canister HTH swimming pool cleaner (accept no substitutes).

Squirt about 1 and 1/2 inches of *SCORE* gel in one end of the envelope. In the other end, sprinkle about 2 tablespoons of HTH (it's granulated chlorine and will also clear your sinuses if you get too close) in the other end. Now fold the envelope in the middle so the contents can't mix . . . yet.

Go forth into the night and find a billboard that particularly deserves cremation. Liberally douse the posts with gasoline. Now, it is time for the envelope. Unfold it and let the HTH mix with the *SCORE*. In fact, mush it up real good with your fingers (on the *outside* of the envelope, you idiot). Place the potent package at the base of the soaked post, get in your truck and drive away.

Four to five minutes later, about the time you're saying, "Yes, a pitcher of Bud, please," the envelope will start to smoke and hiss and produce a horrid, acrid aroma (air pollution) followed by intense heat and . . . Eureka! . . . spontaneous combustion. The flames race up the post spreading rapidly in the dry desert heat.

The next day you drive by and chuckle. But a word of warning: practice with this stuff first. It takes a while to get the right mixture. If it's not just right, it may simply smoke a lot. Remember, practice makes perfect.



Billboard trashing: Start with sequence of three cuts. Tie the rope high up on a pole and throw the remainder over the top (you may have to weight the end with a rock). Make sure the rope is long enough to keep you out of the danger zone.

•

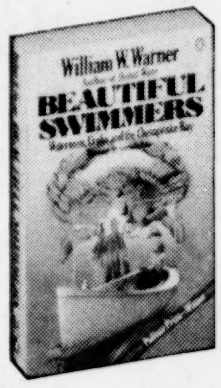
Smaller powerlines are vulnerable to having their insulators shot out by a .22 rifle from a car driving along backroads, or by a hiker. "Powerline? What powerline? I'm just hunting rabbits." This is an effective method to discourage power companies from spraying powerline rights-of-way with toxic herbicides. Be sure to let the power company know that the damage is being done because of herbicide spraying (techniques for safe communication of this sort are in the section on *Security*) and that it will stop when they stop poisoning the area.

—*Ecodefense*

Beautiful Swimmers

KEVIN KELLY: Crabs, in particular the pugnacious, delicious blue crab of the Chesapeake Bay, are like honeybees and some birds in that they have peculiar, quirky natural histories that seem made-up and offer great reading. Robin-like, blue crabs migrate seasonally. They only mate when the female is naked — she has to doff her hard crab shell — so the male cages her with his legs to guard her for the next week while her new shell hardens. All the while the endangered watermen of the Chesapeake chase them in their own quirky, peculiar ways — Jimmy crabbing, bottom scrapers, and chicken neckers. This is natural history at its finest. The fluid, witty narrative won the author a Pulitzer Prize for this book.

Beautiful Swimmers
(Watermen, Crabs and the Chesapeake Bay)
William W. Warner
1976; 319 pp.
$6.95
postpaid from:
Penguin Books
299 Murray Hill Parkway
East Rutherford, NJ 07073



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Then one day there is a great change. It usually comes in the third or fourth week of May, with a full or waning moon. Not hundreds, but thousands of peelers will be taken by the best scrapers. The first run of soft crabs, as it is always called, has started. The water temperature is close to sixty-five degrees Fahrenheit. This and other factors, as yet undetermined, impel enormous numbers of crabs in the middle salinity ranges of the Bay to "turn"

"Have to get that dead one out of there."

or do their first moult of the season all at once. It is a peak moult, in other words, and universally acclaimed by the crabbers as the best of all.

•

Taking up a trotline means more than lifting it from the bottom. It is also the occasion when those one thousand plus pieces of eel must each be inspected for wear and replaced as necessary. I thought this a hard way to finish the day and asked if it might not be possible to leave the lines down overnight. "Lordy, no," Lester replied emphatically. "Hongry crabs eat up everything you got. Maybe the line, too. . . . Look," shouted Lester as he warmed to the subject. "It ain't a nice way to put it, but crabs will eat a drownded man and him all swollen. Did you know that?"

Life in the Chesapeake Bay

PETER WARSHALL: Although I live in the desert, two and a half thousand miles from North America's largest estuary, I'll keep this book. Maybe that's like Madame Bovary tracing the streets of a distant Paris on a map with her fingers. This is the best-written and best-illustrated guide ever about a North American tidal estuary. It is the model for all future coastal nature guides. If I were king, I would require it as bedtime reading for the eight million citizens who live on the solid earth within that immediate watershed. I wonder if the President, who lives near Zone 1 (tidal freshwater), has shaken hands with any of the 2,000 plants and animals just downstream from the White House.

•

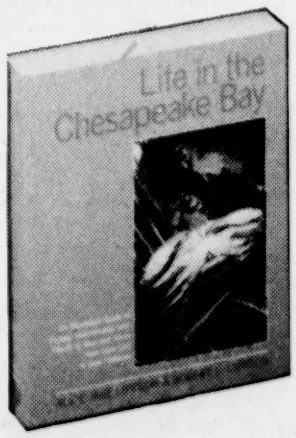
Compared to the oceans, the Chesapeake Bay is very shallow, the average depth of the main stem being less than 30 feet and the average depth of the entire system, including all tidewater tributaries, only 20 feet.

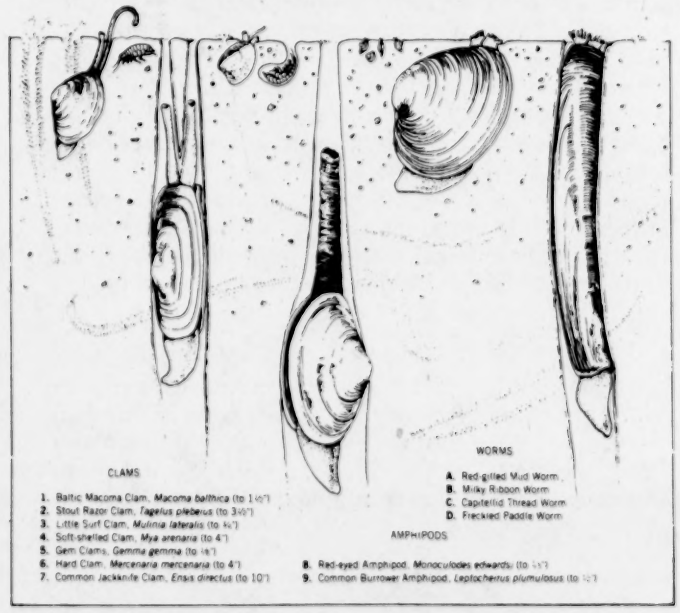
The vast expanses of relatively shallow water in the Bay support a wide variety of bottom life that thrives at depths of less than 20 feet. The Chesapeake's world-famous oyster and soft-shelled clam harvests are attributable to the amount of suitable shallow-water habitat present in the Bay.

•

Worms are plentiful in the oyster bar community as they are everywhere in the Chesapeake Bay. The small leech ribbon worm looks little like its spectacular relative the milky ribbon worm. The oyster flatworm, which preys on barnacles and bryozoans on pilings or in eelgrass meadows, is frequently found moving over the oysters, feeding on spat and other prey. Errant worms of the intertidal flats, such as clamworms, thread worms, and paddle worms, wander over the oyster shells. Clamworms are such an integral part of the oyster bar community that it is almost impossible to search through a half-dozen oysters and not find at least one clamworm. They are hardy creatures, and live specimens can frequently be retrieved from oysters bought in seafood markets.

Life in the Chesapeake Bay
Alice Jane Lippson and Robert L. Lippson
1984; 239 pp
$14.45
postpaid from:
The Johns Hopkins University Press
701 West 40th Street
Suite 275
Baltimore, MD 21211
or Whole Earth Access



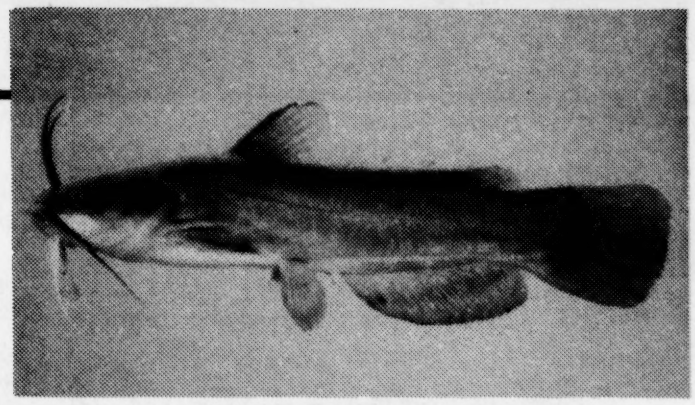

CLAMS
1. Baltic Macoma Clam, Macoma balthica (to 1½")
2. Stout Razor Clam, Tagelus plebeius (to 3½")
3. Little Surf Clam, Mulinia lateralis (to ¾")
4. Soft-shelled Clam, Mya arenaria (to 4")
5. Gem Clams, Gemma gemma (to ½")
6. Hard Clam, Mercenaria mercenaria (to 4")
7. Common Jackknife Clam, Ensis directus (to 10")
WORMS
A. Red-gilled Mud Worm
B. Milky Ribbon Worm
C. Capitellid Thread Worm
D. Freckled Paddle Worm
AMPHIPODS
8. Red-eyed Amphipod, Monoculodes edwardsi (to ½")
9. Common Burrower Amphipod, Leptocheirus plumulosus (to ½")

The Audubon Society Field Guide to North American Fishes, Whales and Dolphins

PETER WARSHALL: Simply the best field guide to fish. Since you can't see them unless you catch them or scuba dive, this book is really a reference more than a field guide. It stops before Puerto Rico or Baja California or Mexico; it's not useful for any coral reefs in these parts of North America. Cetaceans (whales, dolphins, etc.), are better described by others — e.g., the Sierra Club guide (CQ #40, p. 37). But for eels, trout, pike, or paddlefish, dace, cavefish, flounder, or smelt, there is no better coverage of the continent.

The Audubon Society Field Guide to North American Fishes, Whales and Dolphins
Herbert T. Boschung, Jr., et al.
1983; 857 pp.
$13.50
postpaid from:
Random House
Attn: Order Department
400 Hahn Road
Westminster, MD 21157

or Whole Earth Access



57 **Yellow Bullhead** (*Ictalurus natalis*)

Description: To 18" (46 cm); 3 lbs (1.4 kg). Robust, heavy; back dark olive-brown; sides yellow-brown, *not mottled;* belly yellowish; fins dusky to olive. Head thick, long, rounded above; eyes small; mouth terminal; 4 pairs of barbels, *pair on chin yellow to white.* Serrations on rear edge of pectoral fin spine; *24–27 anal fin rays, base long, about equal to head length;* adipose fin present; caudal fin truncate to rounded.

Habitat: Pools and backwaters of sluggish streams, ponds, and lakes; sometimes in slow riffles; usually in areas with heavy vegetation.

Range: SE. Ontario; central E. United States; widely introduced outside native range.

Comments: The Yellow Bullhead is a good sport and food fish. It is active at night, searching out food along the bottom by relying on its barbels and sense of smell.

M. Montagne Fly Rods

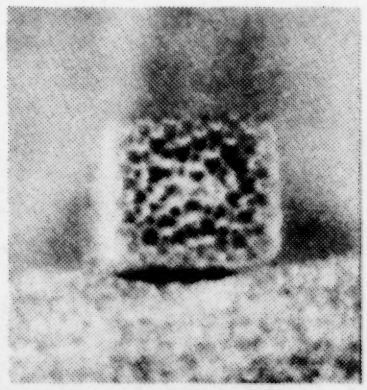
J. BALDWIN: Now it's fly rods-as-Art. Mr. Montagne combines an original design analysis with impeccable workmanship to bring those of us with the sensitivity (and income) the finest fly rod imaginable. While I'm not a prospective buyer or even user, I do appreciate the elegance and finesse of this sort of thing. You don't see much of it these days. His instructive catalog shows what can be accomplished by going further than anyone else has cared to (or been able to).

•

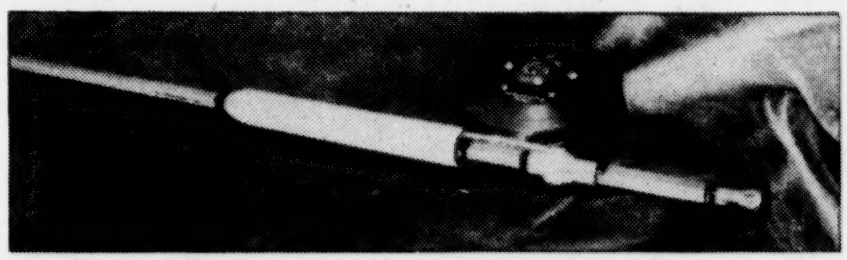
[M. Montagne's] planing system is a technical trade secret. He planes to approximately fifteen thousandths of an inch off the forms, and then scrapes to final dimensions. The plane will tend to lift the wood out of the forms the distance between the sole and the cutting edge. The plane cannot cut without its blade protruding from the sole. There is little wonder that his hand planed sections are probably the most accurate ever made.

Mike has estimated that there is an average per rod of some twenty thousand strokes with the plane.

M. Montagne Fly Rods
$1300 – $2500
Catalog **$2** from:
M. Montagne — Rodmaker
P. O. Box 64
Olema, CA 94950



Montagne joinery. Trapezoidal strips are upper and lower — right-triangular strips at each side. Note absence of glue lines due to perfection in fitting and assembly.



Thomas & Thomas

KEVIN KELLY: Bamboo fly rods, hand-tied fly ingredients, nets, fancy fishing vests, and the finest gear for trout fishing in America.

[Suggested by Bud Anderson]

Thomas & Thomas
Catalog **free** from:
Thomas & Thomas
P.O. Box 32
22 Third Street
Turners Falls, MA 01376

•

REEF WALKERS
Originally designed for canoeists and kayakers these unusual polyester booties are simply unbeatable for wet wading during summer and are perfect for the salt flats too! Fast drying, with nylon felt soles for extra traction. They also make comfortable camp slippers affording excellent foot protection. The special index toe allows better grip and balance and the durable rubber base protects your toes and heels from bruises. Select your street shoe size. M (8-9), L (9½-10½), XL (11-12) . . . . T&T $17.50

•

TEARDROP LANDING NETS
A convenient net with narrow bow preferred by many for easier carrying in brushy country or for backpacking. Two ply Ash bow with Mahogany handle. Nylon net bags carefully proportioned to frame sizes. Brass ring for attaching to vest or shoulder cord.
Teardrop 18 . . . . . T&T $31.50
18" long, 11.5" x 6" bow, 19" net bag.

More Than Names

by Peter Warshall

Mockingbird

NATURE IS MUCH MORE than knowing the names of the birds, flowers, and a few butterflies. Nature has its own theatre of voices, gestures, rages, sorrows, intimacies, and powers. Too many times, while birdwatching, my clients will see a bird, mark it down on their lists, and impatiently ask: "What's next?" "Next" is learning the vocabulary, life-cycle, and concerns of each creature by patiently paying attention. Below are a few of the best new guides that will take you past the first necessary step (learning a friend's name) to the second wonderful stage: involvement in its life.

Herring Gulls

Stokes Nature Guides

*PW: **A Guide to Bird Behavior** is the best. Twenty-five common birds (mostly eastern), their territory, courtship displays, songs, chip notes, seasonal movements, nest-building characteristics, and plumages. Learn to distinguish the snore, hink, or hiss calls of the Canada goose or why the mockingbird sometimes holds its tail loosely and, other times, flashes its wings. A true pleasure to anyone with a bird feeder. **Insect Lives** introduces the life cycles and social behavior of common insects.*

•

Choking— *Male and Female Herring Gull*
Two birds together lower their bodies, tip forward, and repeatedly make pecking motions toward the ground. They may scrape the earth with their feet at the same time.
CALL Choking-call
CONTEXT Done by a pair during courtship, or on their territory as they seek out a nest site or assert their presence to neighboring pairs. See Territory, Courtship, Nest-building.

•

Wing-Droop— *Male or Female Robin*
Wingtips are lowered so that they droop below the level of the tail. Breast feathers may be puffed out.
CONTEXT Occurs just before or after aggressive encounters. See Breeding.

Robin

A Guide to Bird Behavior
(Volume I)
Donald W. Stokes
1979; 346 pp.
$9.95

A Guide to Observing Insect Lives
Donald W. Stokes
1983; 381 pp.
$9.95

both postpaid from:
Little, Brown & Company
200 West Street
Waltham, MA 02254
or Whole Earth Access

The Audubon Society Handbook for Butterfly Watchers

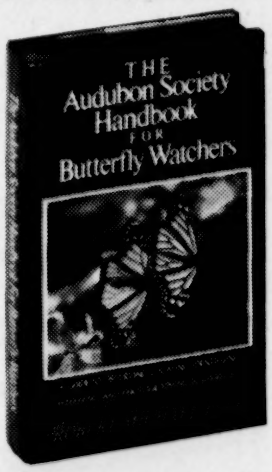
PW: Robert Pyle is America's butterfly guru. Here's a thorough butterflying guide — the first to emphasize watching, not collecting and possessing. My favorite chapter is on planting butterfly gardens. It's the chrysalis we closet butterflyers have been waiting for.

•

As a boy I sought Black Swallowtails on farmhouse lilacs, but frequented my neighbors' butterfly bushes for Painted Ladies. Add a patch of annuals — sweet William, zinnias, and marigolds for starters, and some phlox and aster — and you have a basic butterfly garden good from April through August. If you garden anyway, you can pay a little attention to butterflies' needs with very little extra effort. There will be more of them around, you will notice them more, and your garden will be a richer place. That's not all there is to butterfly gardening, but it is a start.

The proper way to hold a butterfly with forceps. Grip all four wings near their bases, so that you can see the legs. This enables close examination without harming the animal.

The Audubon Society Handbook for Butterfly Watchers
Robert Pyle
1984; 288 pp.
$20.45
postpaid from:
The Scribner Bookstore
597 Fifth Avenue
New York, NY 10017
or Whole Earth Access



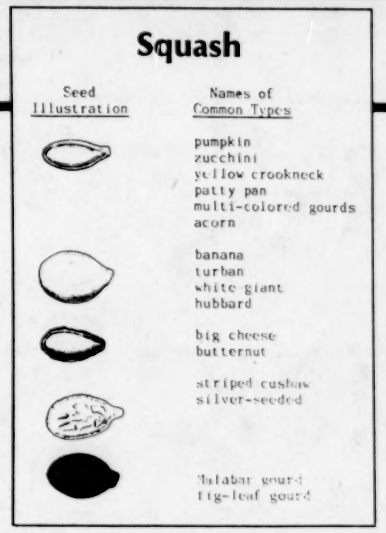
Leaves

*RICHARD NILSEN: Within the genre of coffee-table books there is occasional excellence. **Leaves** is such a book, and it can be enjoyed as great photography, as an exploration of the dazzling variety among plants, or studied as a text. No one teaching a plant ID course will want to be without it. Photographer Sandved has been assembling these photos during 15 years of trekking the globe for the Smithsonian, and he makes the point that leaves have been overlooked in favor of endless books on flowers. Yet any leaf performs a miracle man has yet to understand or duplicate—the production of sugars (stored energy) from sunlight, water, and carbon dioxide. All life on this planet depends on photosynthesis, expecially us. The roof over your head, the gas in your tank, what you ate for lunch, and the shirt on your back, be it cotton, wool, or polyester — all of this derives from leaves.*

The author of "Leaves" with an upturned leaf of the royal water lily, showing the conspicuous ribbed veins that inspired the design of the Crystal Palace in London.

Native Seeds • SEARCH

*RICHARD NILSEN: The work Gary Nabhan reported on in "Kokopelli—The Humpbacked Flute Player" (**CQ** #37, p. 4) continues to bear fruit. So much so that there are now seeds to share. Native Seeds • SEARCH is a non-profit rescue mission for the food plants of native peoples in southwestern North America. The turf extends roughly from Durango, Colorado, in the north to Durango, Mexico, in the south and from Las Vegas, Nevada, in the west to Las Vegas, New Mexico, in the east. The rescued plant might be a bean grown by Tarahumara Indians in the Copper Canyon in Mexico or Hopi corn from northern Arizona. Species of native American food plants got scarce or began disappearing with the advent of mechanized irrigation in the 1920s. The ethnobotany involved in searching out the survivors is as remarkable as the fact that so many varieties (over 200 for sale in the catalog) are still clinging to mostly marginal existences. Plants and people that survive in deserts have to be resilient, and with these seeds that often means high food value, drought tolerance, and resistance to insects and disease. The Native Seeds people ask that you save seeds from what you grow for future gardens or for friends. Proceeds go towards propagating more varieties. For those interested in the work there is a newsletter, **The Seedhead News**.*



Native Seeds • SEARCH
Catalog **50¢**

The Seedhead News
Karen Reichhardt, Editor
$10/year (4 issues)
both from:
Native Seeds • SEARCH
3950 W. New York Dr.
Tucson, AZ 85745

Natural Pest Controls

RICHARD NILSEN: Don't insects ever get sick? Yes. If they ingest the right bacteria they get very sick and die. Scientists have been isolating these strains of bacteria for years — Bacillus thuringiensis israelensis kills mosquito larvae, Nosema locustae kills grasshoppers, and Bacillus popilliae kills the larval (white grub) stage of Japanese beetles. These naturally-occuring microbial insecticides are specific as to what they infect, which means they do not harm fish, honeybees, chickens that eat grasshoppers, your ripe tomatoes, or you.

At last these bug killers are commercially available. Reuter Laboratories produces 16 different products under the brand name of "Attack." Attack they do, but not instantaneously — if you're used to zapping bugs in midair with a spray can of pesticide, this will be something new. For example, Mosquito Attack won't do anything to the adult that just bit you, since it is the larvae that eat the poison. Them that eats never become adults. This product also works on black flies and comes in powder and in a handy time-release ring: drop one in the goldfish pond and it works for a month.

In the vegetable garden, Vegetable Attack (spray or dust) controls things like corn earworms, tomato hornworms, cutworms, and cabbage loopers. Prices are mostly in the $3 to $12 range.

Reuter "Attack" Natural Pest Controls
Catalog **free** from:
Plow and Hearth
P. O. Box 560
Madison, VA 22727

•

Some of the most bizarre leaves are those adapted to catch insects as a source of nutrition for the plants to which they belong. As long ago as 1875 Charles Darwin wrote a book about insectivorous plants that described many in great detail. More recently, however, they have come to be known as carnivorous plants because some of them also digest small animals such as frogs, fishes, and mice. In all cases it is modifications of the leaves that enable the plant to trap its animal food.

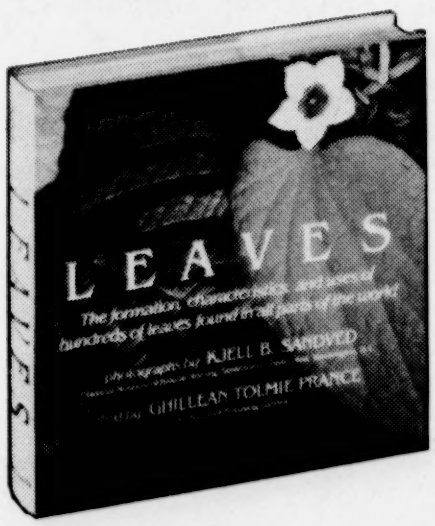
Most plants obtain their nutrition directly from the gases in the air and the minerals and water in the soil. Carnivorous plants are unique in that they also feed on animals which they capture and digest. Carnivorous plants are common in acid bogs where there is little nitrogen. The insect material that they digest is rich in nitrogen, so carnivory in plants is an adaptation to survival in nutrient-poor habitats. Once they have trapped an animal, the carnivorous plants secrete enzymes which digest the animal in an acid environment that inhibits putrefaction.

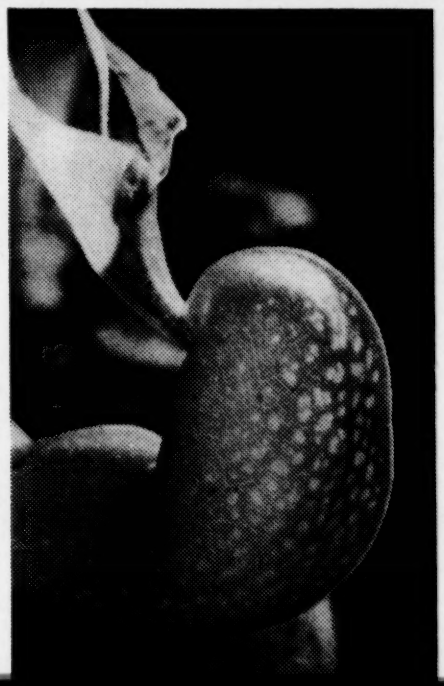
Big Wheeler Carts

*GEORGE McHUGH: Stanley Forge Company of Stanley, Kansas, makes a cart with a similar design to the Garden Way Cart (**NWEC** p. 131). I have owned both kinds, and the Stanley Forge cart is at least as good as the Garden Way and much cheaper. They have tiny ads in **Organic Gardening** rather than full-page ones.*

Big Wheeler Carts
$75 - $135. Information **free**
from: Stanley Forge Company
P. O. Box 23156, Stanley, KS 66223

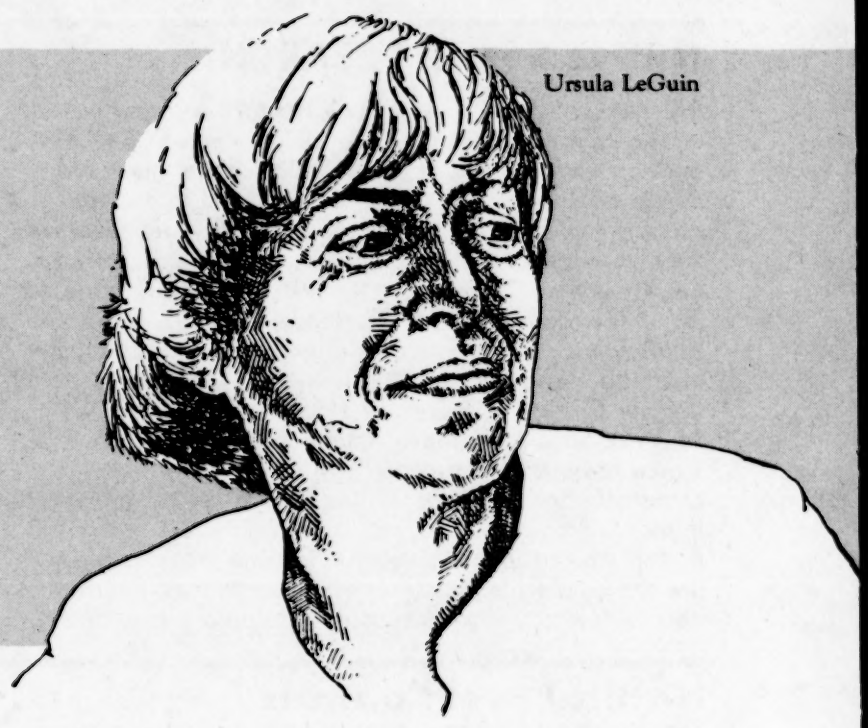
Leaves
Kjell B. Sandved, photographs
Ghillean Tolmie Prance, text
1985; 244 pp.
$36
postpaid from:
Crown Publishers
34 Englehard Avenue
Avenel, NJ 07001
or Whole Earth Access


LEAVES
The formation, characteristics, and natural history of hundreds of leaves found in all parts of the world
photographs by KJELL B. SANDVED
text by GHILLEAN TOLMIE PRANCE



Darlingtonia californica, the California pitcher plant. The mottled surface of the pitcher functions as windows to let in light and confuse the trapped insects.

ALWAYS COMING HOME


Ursula LeGuin

by Ursula LeGuin
drawings by Margaret Chodos

IT WAS NEVER REALLY DIFFERENT

Given to the Red Adobe heyimas of Wakwaha by Ninepoint of Chumo.

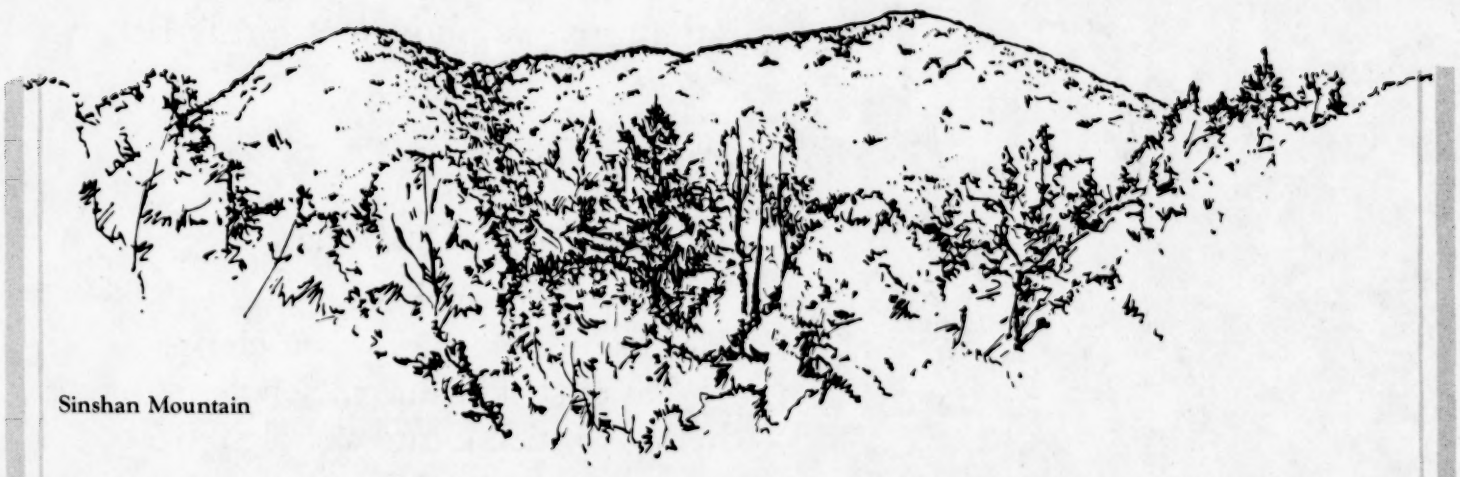
"Time"
from a wall painting in the Serpentine heyimas in Wakwaha.

It was never really different.
Maybe it needed more arranging.
Maybe the beginning
was when more things were needed.
Before the beginning, however,
who knows but what some woman
swatted a fly grown from a maggot
in a mouse spleen some fox left
by the creek, under the bushes?
How can you say she didn't?
How can you say she won't?
Because of waves,
is the sea different?
When I hit the drum like this,
I think the sound
was there before the beginning,
and that everything has gone to make that sound,
and after it
everything is different.

Author of The Left Hand of Darkness, The Dispossessed, *the* Earthsea Trilogy, *Ursula LeGuin is one of the leading science fiction/fantasy novelists alive. Her readers carefully note signs of her daughterhood of famed anthropologist Alfred Kroeber and writer Theodora Kroeber* (Ishi in Two Worlds) *— a certain fine-grained intercultural sensitivity that helps her create real natives of real imaginary places. Such readers will rejoice in the new work she's up to, excerpted here.*

LeGuin: *"The book,* Always Coming Home, *involves a people who might be going to have lived in a Northern California valley a very long time from now, and consists mostly of their writings, and observations concerning them. And pictures. And a tape of their music, by Todd Barton. It will be out in September 1985 from Harper and Row."*

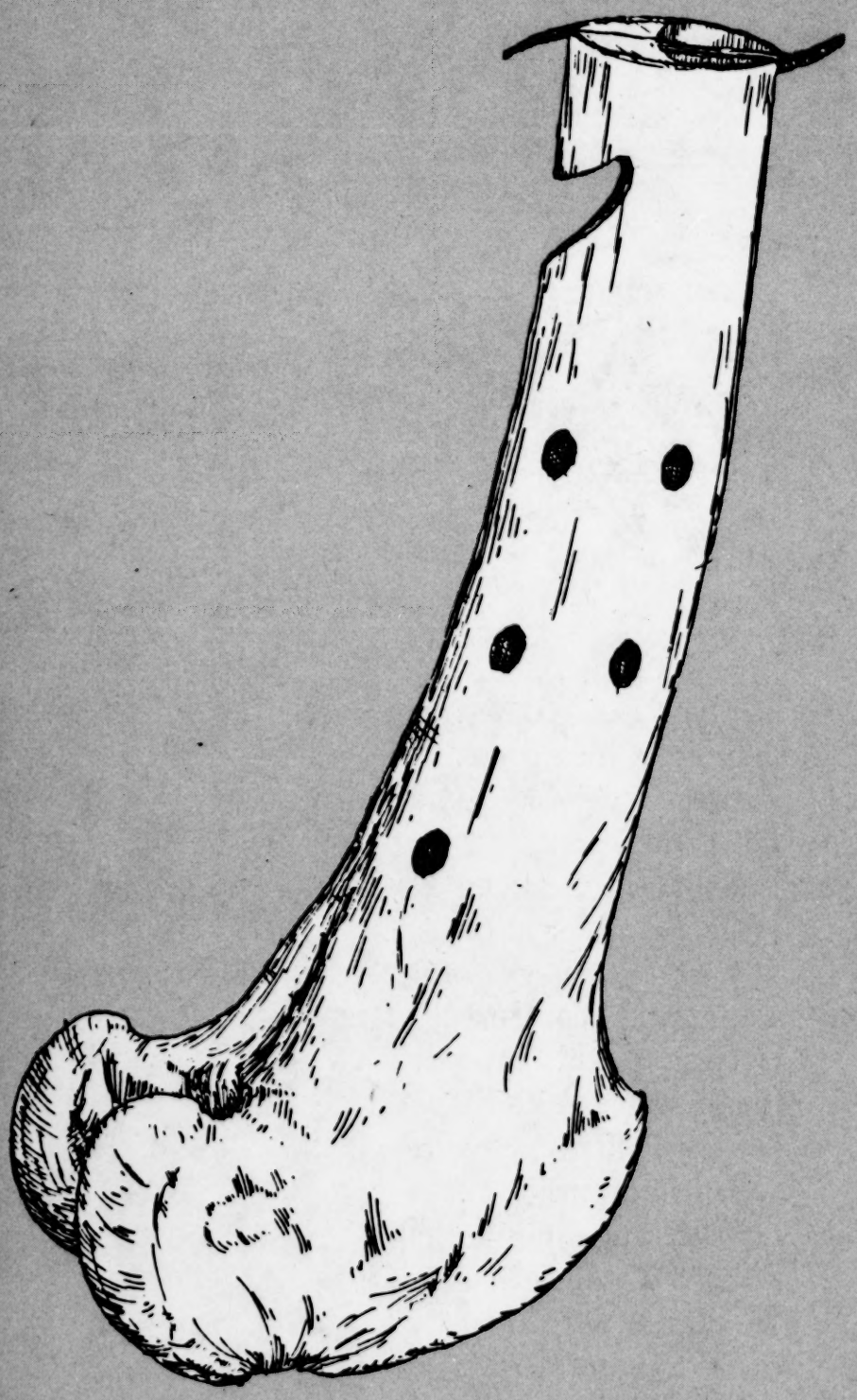
This imaginary real place is realer than most, being where the Kroeber family has always gone to ground, summers mostly, in Napa Valley country. Haunted country, by ghosts future as well as past. The drawings here by Margaret Chodos, precise to the place, are a few of the 100 that will appear in the book. —*Stewart Brand*



Sinshan Mountain

A SONG USED IN CHUMO WHEN DAMMING A CREEK OR DIVERTING WATER TO A HOLDING TANK FOR IRRIGATION

To the ousel, to the water ousel
may it go, may it go.
Tarweed, the corn roots
need this water also.
Buckbrush, the bean leaves
need this water also.
Way of the water's going,
we do not wish this!
Let it go to the water ousel,
to the water skater.
Let the wild goose's wings
carry it upward.
Let the dragonfly larva
carry it downward.
We do not wish this,
we do not desire it,
only the water we borrow
on our way to returning.
We who are doing this
all will be dying.
Way of the water's going,
bear with us in this place now
on your way to returning.



Weosai medoud teyahi
bone reed flute

A BAY LAUREL SONG

(The Bay Laurel Lodge is a society of young adolescent males — a kind of Kesh equivalent of the Boy Scouts.)

He has to wave it,
he has to wave it like a flag
to make it stand up.

He has to stick it into mouseholes,
he has to stick it into moleholes,
he has to stick it into assholes,
to make it stand up.

Let me lie down, it says.
No, he says.
Let me get some sleep, it says.
Get up, he says.
So it gets up and grows hands
and gets a knife and cuts him off.

He goes running off without one,
and it sings heya nine times and lies down
and goes to sleep.

He grows a new one
but it's very little.
He has to lie down
and stick it into antholes.

AN EXHORTATION FROM THE SECOND AND THIRD HOUSES OF THE EARTH

A calligraphed poster-scroll from the Serpentine heyimas of Wakwaha-na.

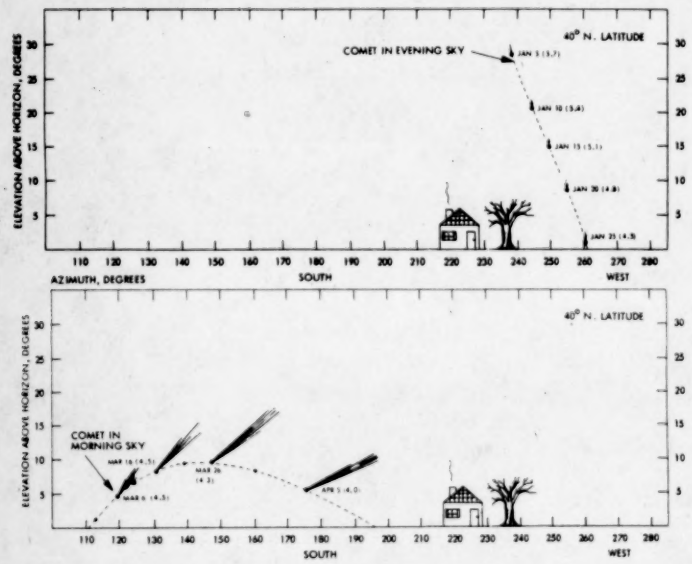
Listen, you people of the Adobes, you people of the Obsidian!
Listen, you gardeners and farmers, orcharders and vintners,
shepherds and drovers!
Your arts are admirable and generous, arts of plenty and increase,
and they are dangerous.
Among the tasselled corn the man says, this is my plowing and sowing,
this is my land.
Among the grazing sheep the woman says, these are my breeding and caring,
these are my sheep.

In the furrow the seed sprouts hunger,
in the fenced pasture the cow calves fear,
the granary is heaped full with poverty,
the foal of the bridled mare is anger,
the fruit of the olive is war.
Take care, you Adobe people, you Obsidian people, and come over
onto the wild side.
Don't stay all the time on the farming side, it's dangerous to live there.
Come among the unsown grasses bearing richly, the oaks heavy with acorns,
the sweet roots in unplowed earth.
Come among the deer on the hill, the fish in the river, the quail
in the meadows.

You can take them, you can eat them,
like you they are food.
They are with you, not for you.
Who are their owners?
This is the puma's range,
this hill is the vixen's,
this is the owl's tree,
this is the mouse's run,
this is the minnow's pool:
it is all one place.
Come take your place.
No fences here, but sanctions.
No war here, but dying. There is dying here.
Come hunt, it is yourself you hunt.
Come gather yourself from the grass, the branch, the earth.
Walk here, sleep well, on the ground that is not yours, but is yourself.

The Comet Book

PETER WARSHALL: Step right up. Don't be left at the tail's end. Time to buy your Halley's comet ***Comet Book****. Slideshow also available. Though not cosmic, the writing appears solid and informative and clear. Will Halley's be an omen of good or evil? Will you remain under neon and sodium vapor street lamps, or will you search for a dark spot on the planet to welcome this once-in-a-lifetime solar-system event? Will Halley's comet be a bust like Kohoutek? This book will help you prepare. A good bibliography leads you on to more technical pathways of celestial mechanics. The slides are for schools.*



Top: Comet Halley's position during January, 1986 for a northern hemisphere observer. The time is at the end of astronomical twilight, so that the sky will be very dark if you are away from city lights and air pollution.

Bottom: Comet Halley's position during March and early April, 1986 for a northern hemisphere observer.

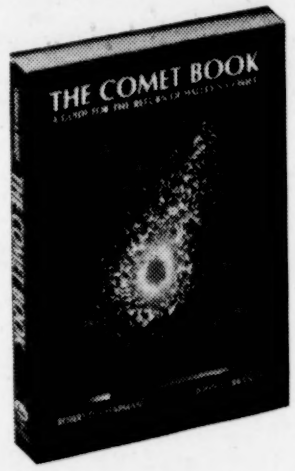
You might also find it rewarding to try to photograph a comet, using a fast black-and-white film or one of the high-speed color films. When the comet is faint, it may require several minutes to expose a picture properly. If the camera is set up on a fixed tripod, the rotation of the earth will smear the comet and the stars in a few minutes. In fact, the over-all composition, with the glow of twilight, is so pleasing that the smearing is a minor problem.

Exposure times are difficult to estimate, and we strongly recommend a series of exposures at say 1/16, 1/4, 1, 4, and 16 times the estimated exposure. Experience of acquaintances who have taken exposures of bright comets using a wide-open standard lens such as a single lens reflex and Tri-X film show that a moderately bright, naked eye comet can be recorded in about 15 seconds. An exposure of this length would be an appropriate starting point when Halley reaches naked eye brightness in early 1986.

Comet Mrkos on August 24, 1957. The upper, diffuse tail is the type II or dust tail. The lower, straight, structured tail is the type I or plasma tail (Palomar Observatory photograph).

The Comet Book
Robert D. Chapman
and John C. Brandt
1984; 174 pp.
$15.50

Comet Slideshow
(including booklet
and charts)
Compiled by
John C. Brandt
$25.95
both postpaid from:
Astronomical Society
of the Pacific
1290 24th Avenue
San Francisco, CA 94122
Book also available from Whole Earth Access



Dark Skies for Comet Halley

KEVIN KELLY: A campaign to turn off inessential outdoor lighting for a few hours on the best nights of Halley's Comet in 1986. These folks offer encouragement in persuading your local township that dark skies would be good community manners. Down in front, please!

Dark Skies for Comet Halley
Fred Schaaf, Editor
$4/year (4 issues)

from:
Astronomical League
Don Archer, Executive
Secretary
P.O. Box 12821
Tucson, AZ 85732

The Bedrock Geology of the World

KEVIN KELLY: The subterranean pattern of rock under the Earth's clothing of soil is projected onto a blanket-size map. It shows the undergarment of North America divided down the middle: the east is two hunks of homogeneous old rock; the west a confusion of newer kinds, with the Rocky Mountain states as soft-cheeked babes (Cenozoic, less than 50 million years) if you scratch them under the surface. The bands forming in the ocean are rocks marking time, about 15 million years each, in carnival stripes of yellows, reds, and oranges. Magnificent wallpaper for contemplation, imprinted with the growth rings of the still-expanding Earth.

The Bedrock Geology of the World
(48" x 75" Map)
R.L. Larson et al.
$36.45

postpaid from:
W.H. Freeman
and Company
4419 West 1980 South
Salt Lake City, UT 84104
or Whole Earth Access

Hands-on cybernetics . . .

LIFE

John Conway. Not copy-protected. $10. Apple II family: Public Domain Software Copying Co., 33 Gold St., #13, New York, NY 10038; 212/732-2565. IBM PC family: PC Software Interest Group, 1556 Halford Ave., #130, Santa Clara, CA 95051; 408/730-9291. Macintosh (Bill Atkinson's version): Macintosh/Apple User's Group SIG on CompuServe, 5000 Arlington Centre Blvd., Columbus, OH 43220; 800/848-8990 (in OH: 614/457-8650).

STEVEN LEVY: British mathematician John Conway first designed the LIFE simulation using stones and a Go board; LIFE fired the imagination of logicians, gamesters, and poetic mathematicians the world over. But none were so excited as the first computer hackers, who could fully explore the mysteries suggested by what I consider the deepest of all computer games.

The rules to LIFE are elementary. Picture a grid. Each square is a "cell." Each turn of the game — called a "generation" — determines a cell's fate: A living cell bordering on two or three living neighbors survives. With fewer neighbors, a cell dies of isolation. With more, it's fatally stifled by overpopulation. A dead cell bordering on exactly three cells is "born" and becomes a live cell.

As Poundstone's book (below) emphasizes, LIFE works on many levels. On the simplest, it is fun to set up a pattern — "a colony" of LIFE cells — and move through generation by generation to see what happens. The patterns are often hypnotically beautiful until the almost inevitable end: a stable "still life," a loop where a colony "pulses" between two patterns, or a blank dead screen. The exceptions to extinction are the self-replicating patterns, the "gliders, spaceships, and puffer trains" he describes.

The fastest microcomputer LIFE I've seen is the public domain version written for the Macintosh by Bill "MacPaint" Atkinson. You can control the speed of the simulation by hitting a number key (top speed is blinding), or move it one generation at a time by the spacebar. Otherwise, it's fairly sparse, but the price (free) is unbeatable.

Les Crane's "Software's Greatest Hits" (p. 91) also includes a version of LIFE for the IBM PC. This one is based on the assembly language program included in Poundstone's book. Versions of LIFE can also be run on other computers by simply typing in one of the many BASIC programs listed in various books.

Still, the ultimate microcomputer LIFE has yet to be written. It would be as fast as Atkinson's and have lots of utilities, like zooming out to a larger grid or into a smaller section. It would have slow-motion instant replay and cut-and-paste of complex structures. Maybe because the game itself is public domain, publishers don't want to devote resources into developing a superprogram for it. Too bad — I'd buy one in a minute. LIFE at its best puts us viscerally into contact with the hauntingly beautiful nexus of logic and vision, and that stuff is worth paying for.

The Recursive Universe

STEVEN LEVY: Though the computer "game" of LIFE has been perhaps the most popular computer recreation since its conception in 1970, there has been precious little in the way of literature discussing this simple simulation whose implications are infinitely complex. Poundstone's book is the first (more are on the way) book-length attempt to remedy this. Rather than devoting itself solely to the simulation, ***The Recursive Universe*** *alternates chapters between LIFE and a basic cosmological primer of quantum physics and "big-bang" theorizing. The nexus of all this lies in the ability to use LIFE to arrive at an understanding of the way the universe works. None of this would be worthwhile if Poundstone did not (1) allow us some fun in considering the various permutations of LIFE and (2) explain everything so clearly that even a casual reader can get involved. He does both.*

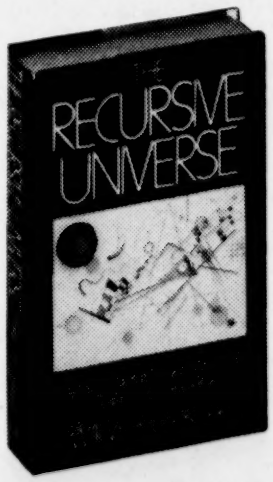
•

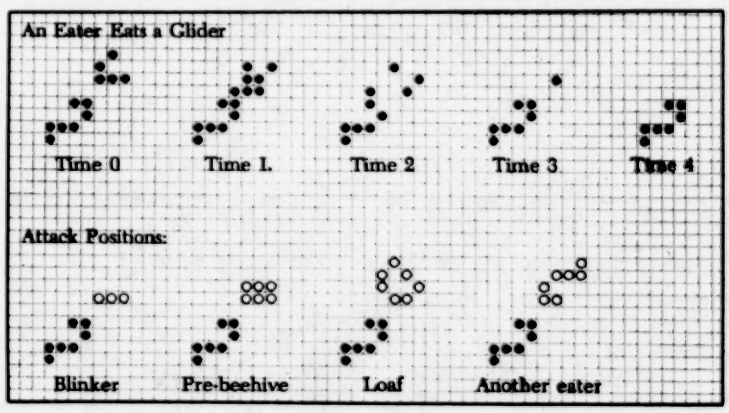
Information theory claims that every observation obscures at least as much information as it reveals. No observation makes an information profit. Therefore, no amount of observation will ever reveal everything — or even take us any closer to knowing everything.

•

When LIFE was first introduced, three of the biggest questions LIFE players wondered about were these: Is there any general way of telling what a pattern will do? Can any pattern grow without limit (so that the number of live cells keeps getting bigger and bigger)? Do all patterns eventually settle down into a stable object or group of objects?

The Recursive Universe
William Poundstone
1985; 252 pp.
$16.95
postpaid from:
William Morrow and Co.
105 Madison Avenue
New York, NY 10016
or Whole Earth Access





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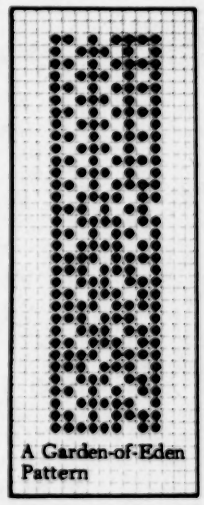
The glider is one of the commonest LIFE objects. When a LIFE screen starts with a random pattern of on and off pixels, gliders form naturally out of the chaos. Yet Conway did not "put" the gliders into LIFE. The designers of ordinary video games have to sit down, draw the graphics, figure how to animate them, and write it all up as a complicated program. LIFE's program is simple and seems to say nothing about gliders (or blinkers, blocks, beehives . . .). Everything you see, no matter how unexpected, is the inevitable consequence of Conway's rules.


A Garden-of-Eden Pattern

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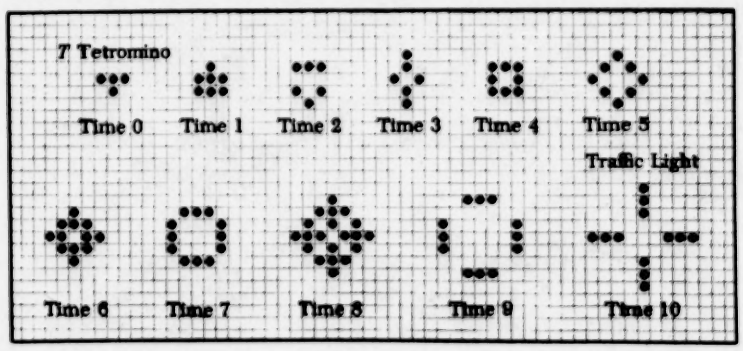
One kind of pattern does not even have itself for a predecessor. It is an unstable pattern with no predecessors. The only way it can possibly turn up on the LIFE screen is for someone to use it as a starting configuration. The name for such a configuration is a "Garden-of-Eden" pattern. . . . This is a pattern with no past. It can never appear in LIFE except in the initial state.

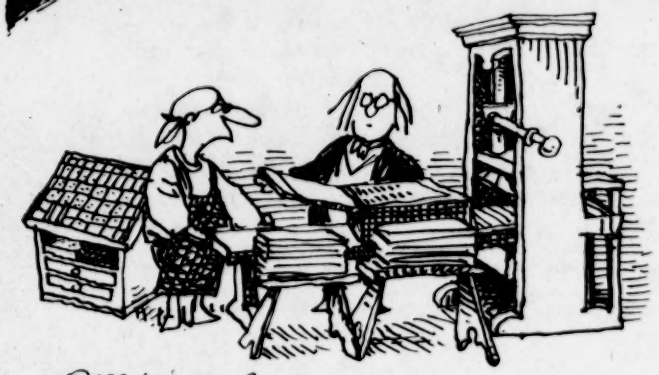


THE BIASED, PEDANTIC, INSUFFICIENTLY REVERENT, AND PROBABLY BEST IGNORED HISTORY OF THE UNITED STATES

BY

LARRY GONICK

THE OVEREDUCATED CARTOONIST



©1985 by LARRY GONICK

CHAPTER 2

NEW COLONIES AND BABY CHICKENS

AS YOU MAY HAVE NOTICED, THE FIRST AMERICAN COLONIES WERE NOT EXACTLY CONCEIVED IN LIBERTY. ONE OF THEM WAS RIGIDLY PURITAN, WHILE ANOTHER WAS BASICALLY A BODY DISPOSAL UNIT.

SO WHERE DO WE FIRST HEAR ABOUT THE "LIBERTIES OF ENGLISHMEN?"

THE ANSWER SEEMS TO BE — WHEN THE ENGLISH PURITANS, OR "ROUNDHEADS", TOOK UP ARMS AGAINST THE KING'S MEN, OR "CAVALIERS," IN THE ENGLISH CIVIL WAR. (1642-1660).

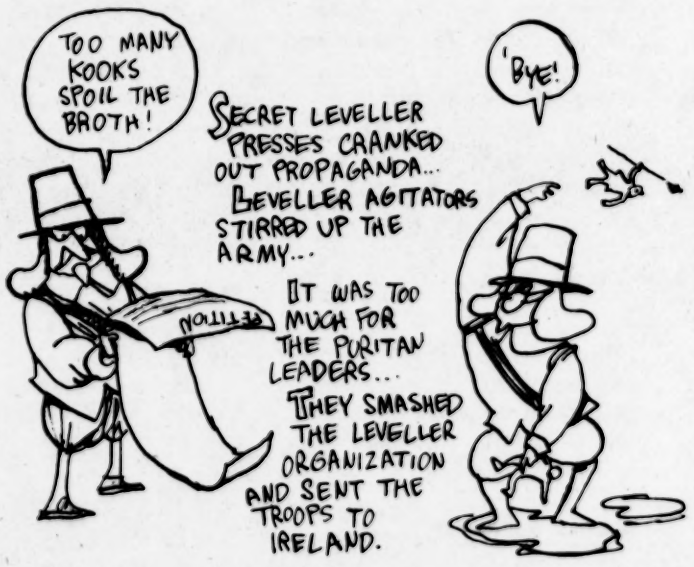
FREEDOM OF THE PRESS, FREEDOM OF WORSHIP, A VOTE FOR "THE POOREST HE" — QUITE A PROGRAM. TOO BAD IT DIDN'T BELONG TO THE PURITANS.

THIS WAS THE AGENDA OF EUROPE'S "FIRST POLITICAL PARTY," THE **LEVELLERS**.

"FREEBORN JOHN" LILBURNE, LEVELLER IDEA MAN

AND SOON IT WAS ON THE LIPS — AND PETITIONS — OF THE SEPARATISTS, KOOKS, AND RADICALS WHO MADE UP THE ROUNDHEAD RANK AND FILE.

AFTER ALL, WHAT ELSE SHOULD THEY FIGHT FOR?



SECRET LEVELLER PRESSES CRANKED OUT PROPAGANDA... LEVELLER AGITATORS STIRRED UP THE ARMY...

IT WAS TOO MUCH FOR THE PURITAN LEADERS...

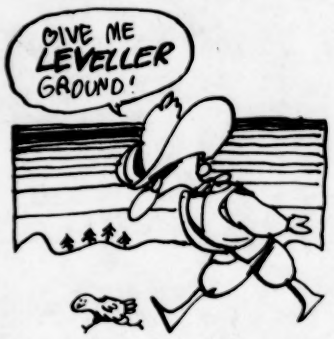
THEY SMASHED THE LEVELLER ORGANIZATION AND SENT THE TROOPS TO IRELAND.

BUT FRESH IDEAS ARE LIKE BABY CHICKENS: HARD TO PUT BACK IN THE SHELL, ONCE THEY'VE HATCHED.

BUT BACK TO THE CIVIL WAR: THE ROUNDHEADS DEFEATED THE CAVALIERS, AND IN 1649 THEY REMOVED KING CHARLES' HEAD.

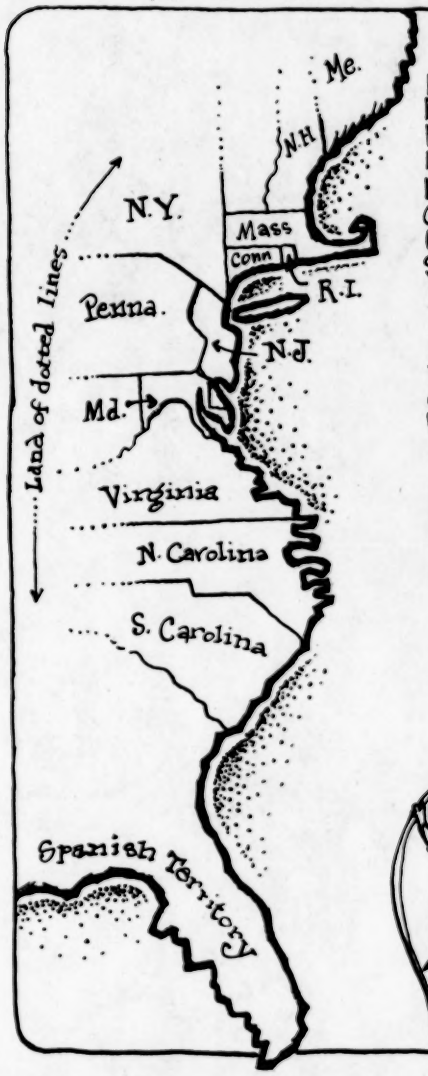
AS MASSACHUSETTS CHEERED, HORDES OF NOBLEMEN SCURRIED TO VIRGINIA FOR SAFETY. (IT'S STILL KNOWN AS "THE CAVALIER STATE.")

IN 1654, SOME DISGUSTED DEMOCRATS LEFT VIRGINIA TO FOUND THEIR OWN COLONY— NORTH CAROLINA.



THEN, IN 1660, ENGLAND'S PURITAN EXPERIMENT COLLAPSED. CHARLES, JR., BECAME KING, AND HIS DAD'S KILLERS FLED TO BOSTON.

THE NEW KING GOT RIGHT TO WORK IN THE AMERICAN DEPT.



1664: THE ROYAL NAVY GRABS NEW YORK FROM THE DUTCH (WHO HAD ORIGINALLY SWINDLED IT FROM THE INDIANS). NEW JERSEY IS QUICKLY CREATED BY A SORT OF LONG-TERM SUB-LEASE.

1670: TO SETTLE A DEBT, KING CHARLES FOBS OFF SOUTH CAROLINA ON SOME NOBLES.

1681: ALWAYS SHORT OF FUNDS, HE NOW SELLS PENNSYLVANIA TO A QUAKER, WILLIAM PENN.

SUDDENLY, THE MAP WAS FILLING UP— ONLY PROBLEM WAS:

NEED I SAY AGAIN THAT EVERY NEWLY COLONIZED ACRE HAD TO BE TAKEN AWAY FROM SOMEBODY??

A COUPLE OF EXAMPLES:

PEACEABLE PENNSYLVANIA PURCHASED A STRETCH OF THE DELAWARE RIVER, AS FAR AS "A MAN CAN WALK IN A DAY AND A HALF." WHEN SURVEYING TIME CAME, THE WHITES BLAZED A TRAIL, SET UP REFRESHMENT STANDS, HIRED A MARATHONER, AND MADE IT 64 MILES!

IN MASSACHUSETTS, WHERE THEY WENT BY THE BOOK (THE LAW BOOK), AN INDIAN'S LAND COULD BE SEIZED IF HE WAS CONVICTED OF ANY CRIME.

IN **1676** THE COLONIES EXPERIENCED SEVERE GROWING PAINS.

IN MASSACHUSETTS, THE NARAGANSETT CHIEF **METACOMET** LED A GUERRILLA WAR AGAINST THE WHITES.

AS A MODEL FOR SEVERAL LATER WARS, THE COLONY ALL BUT WIPED OUT THE NARAGANSETT NATION.

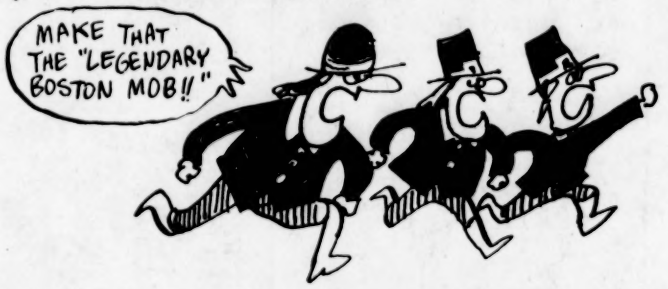
...WHILE IN VIRGINIA, A LITTLE CIVIL WAR ERUPTED WHEN GOVERNOR BERKELEY TRIED TO STOP FARMERS FROM "REMOVING" INDIANS.

SO THE FARMERS BURNED JAMESTOWN

27 GATE FIVE ROAD SAUSALITO CA 94965

THEY EVEN SMELLED THE SMOKE BACK IN ENGLAND, AND TOOK IT AS A SIGN OF REVOLUTION — AND THIS WAS 1676, A HUNDRED YEARS AHEAD OF SCHEDULE!

THE KING DISSOLVED THE MASS. GOVERNMENT AND SENT OVER A ROYAL GOVERNOR, WHO WAS QUICKLY JAILED BY THE BOSTON MOB.



NEVERTHELESS, THE CROWN KEPT THE COLONY, AND THE PURITAN MONOPOLY WAS OVER FOREVER. TO MANY IN MASSACHUSETTS, THIS COULD ONLY BE THE DEVIL'S WORK!

EVEN WORSE THAN VIRGINIA WAS MASSACHUSETTS. THE BAY COLONY HARBORED THE KILLERS OF CHARLES I, BARRED THE KING'S CHURCH, AND IGNORED THE KING'S TAXES AND REGULATIONS. WHAT WAS A POOR KING TO DO? COLONIES WERE SUPPOSED TO BE MONEY-MAKERS!

THE OLD GUARD FREAKED OUT AND STARTED ARRESTING WITCHES. THEY EXECUTED 20 HUMANS AND 2 DOGS BEFORE CALMING DOWN....

...WHICH BRINGS US TO THE YEAR

1700

(AT LAST! WHEW!)

MORE THAN A CHANGE OF CENTURY, IT WAS A CHANGE OF MIND... "THE ENLIGHTENMENT."

RELIGIOUS WARS DIED DOWN... LOGIC PREVAILED... "THE LIGHT OF THE MIND REPLACED THE FIRE IN THE BELLY."

HADN'T NEWTON'S LAW OF GRAVITATION (1687) PROVED THAT THE HEAVENS WERE DRIVEN BY EQUATIONS?

EVERYWHERE, THE UNTHINKABLE WAS THOUGHT...

IN AMERICA, THE TREND COULD BE SUMMED UP IN TWO WORDS:

BENJAMIN FRANKLIN.

BORN IN BOSTON IN 1706, FRANKLIN GREW UP WITH THE NEW CENTURY.

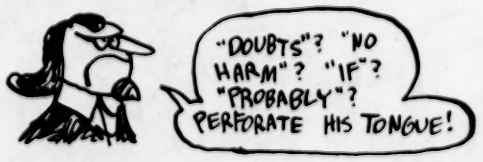
FOR STARTERS, HE HORRIFIED HIS PURITAN PARENTS BY BECOMING A **DEIST,** WHICH MEANT THAT HE BELIEVED IN A SORT OF ABSTRACT GOD, NOT A BEARDED JEHOVAH IN THE SKY.

ON HIS OWN WORDS:

"SINCE THERE IS IN ALL MEN SOMETHING LIKE A NATURAL PRINCIPLE WHICH ENCLINES THEM TO DEVOTION OR THE WORSHIP OF SOME UNSEEN POWER... THEREFORE, I THINK IT SEEMS REQUIRED OF ME, AND MY DUTY AS A MAN, TO PAY DIVINE REGARDS TO **SOMETHING.**"

AND:

"AS TO JESUS OF NAZARETH,... I HAVE SOME DOUBTS OF HIS DIVINITY, THO' IT IS A QUESTION I DO NOT DOGMATIZE UPON... I SEE NO HARM, HOWEVER, IN ITS BEING BELIEVED, IF THAT BELIEF HAS THE GOOD CONSEQUENCE, AS IT PROBABLY HAS, OF MAKING HIS DOCTRINES MORE RESPECTED AND BETTER OBSERVED."



FRANKLIN BROKE INTO PRINT AS A TEENAGER, LAMPOONING MINISTERS IN THE PAGES OF THE **NEW ENGLAND COURANT**, AMERICA'S FIRST "UNDERGROUND" NEWSPAPER (1722).

BANNED IN BOSTON, BENJAMIN MOVED TO THE FREER AIR OF PHILADELPHIA IN 1723.

THERE HE WENT INTO THE PRINTING BUSINESS. (PRINTSHOPS WERE POPPING UP EVERYWHERE, AS THE COLONIAL POPULATION WAS NOW BIG ENOUGH TO SUPPORT THEM.)

HOW FREE WAS THE PRESS? WELL, UNTIL **1733**, EVEN PRINTING THE TRUTH COULD LAND YOU IN JAIL, IF YOU INSULTED THE RIGHT PEOPLE.

THAT YEAR, NEW YORK PUBLISHER ***PETER ZENGER*** WAS ARRESTED FOR LIBELING THE COLONIAL GOVERNOR.

ZENGER'S LAWYER PERSUADED THE JURY TO SET ZENGER FREE, ON THE GROUNDS THAT TRUTH CAN'T BE LIBEL — AND A GREAT PRINCIPLE WAS BORN:

BUT BACK TO BEN...

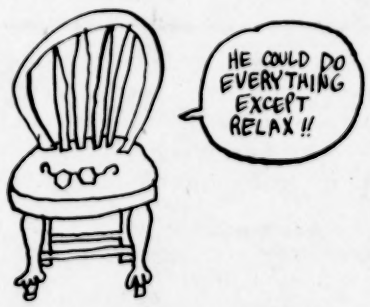
TO MAKE A LONG STORY SHORT, FRANKLIN GREW UP TO BECOME AMERICA'S MOST SUCCESSFUL PRINTER, RICH ENOUGH TO RETIRE FROM THE BUSINESS AT AGE 42.

HIS NEXT CAREER MOVE WAS TO BECOME AMERICA'S FIRST WORLD-CLASS SCIENTIST.

ON THE THEN-HOT FIELD OF ELECTRICITY, FRANKLIN PROVED THE FAMOUS FACT THAT LIGHTNING BOLTS ARE ELECTRIC SPARKS, AND HE LAID BARE THE SHOCKING SECRET OF HOW TO ELECTROCUTE A TURKEY.

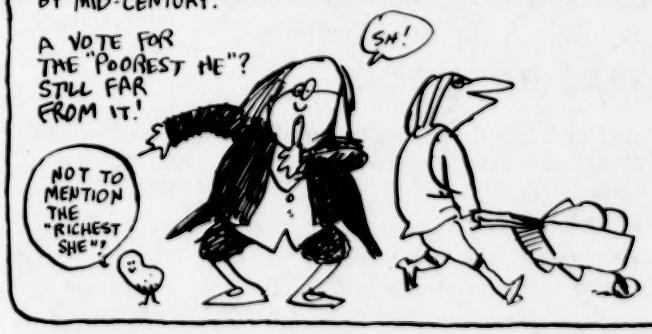
(I DON'T MAKE ANY OF THIS UP!)

IN A MORE PRACTICAL VEIN, FRANKLIN INVENTED THE LIGHTNING ROD, THE STORAGE BATTERY, AN ENERGY-EFFICIENT STOVE, AND BIFOCALS.



AND AS A PUBLIC CITIZEN, HE PROMOTED A VOLUNTEER FIRE DEPARTMENT, A NON-SECTARIAN COLLEGE (LATER TO BE THE U. OF PENN.), A PHILOSOPHICAL SOCIETY, A VOLUNTEER MILITIA, PAVED ROADS, STREET SWEEPING... AND HE STILL HAD TIME TO COIN CLEVER SAYINGS — ALL BEFORE **1755**. IT MAKES ME TIRED JUST WRITING ABOUT IT!

NOW YOU HAVE SOME IDEA HOW FAR THE COLONIES HAD COME BY MID-CENTURY.



FREEDOM OF RELIGION? EVEN MASSACHUSETTS HAD LOOSENED UP, WHILE RHODE ISLAND AND PENNSYLVANIA WELCOMED ALMOST EVERY SECT. FRANKLIN DONATED MONEY TO THEM ALL.

FREEDOM OF THE PRESS? THEN AS NOW, AS FREE AS THE NEAREST ATTORNEY!
AT LEAST THERE IS A PRESS!
AND WHERE THERE ARE LAWYERS, YOU'RE SURE TO FIND A GOVERNMENT OF LAWS. LAWSUITS... AND PROPERTY IN HEAPS... AND THAT BRINGS US TO THE NEXT CHAPTER...

NEXT: PROPERTY — WHO HAS IT, WHO IS IT?

27 GATE FIVE ROAD SAUSALITO CA 94965

For very small businesses . . .

BACK-TO-BASICS

Sentient Software. Version 1.01. Copy-protected. $180 - $575 (depending on machine); street price $125 - $300; individual modules (GENERAL LEDGER, ACCOUNTS RECEIVABLE, ACCOUNTS PAYABLE) $60 - $175 each; street prices $40 - $120 each. Atari 800; Commodore 64; Apple II family; Macintosh (512K); IBM PC family. Requires 80-column printer. Peachtree Software, 3445 Peachtree Rd. NE, 8th Floor, Atlanta, GA 30326; 800/554-8900 (in GA: 404/239-2000).

JAN PEHRSON: An efficient and easy-to-use accounting system targeted at small businesses with small payrolls. It is in many respects an improvement over the Peachtree accounting series, which became the de facto standard because so many were sold by IBM.

BACK-TO-BASICS is a clearer, cleaner version of Peachtree's accounting software, with similar full-bore power. It's as though the standard has become more standardized: many of the finer customization features are now explicit menu options rather than buried in the documentation. There's a little loss of flexibility, but the gain in clarity is worth it. The program flow is so tightly controlled, there is little chance of making a fatal error. This is a much safer program than Peachtree's earlier software. It tests data and it tests the validity of account numbers when used with the general ledger module.

HOWARD DYER: BACK-TO-BASICS deals with accounting reports in an efficient, simplified way. The rat's nest of customizing report forms is gone. (Other programs, such as the IUS EASYBUSINESS series, make you learn a minor programming language.) Through a menu option, you can choose over 30 standard reports to print after posting. Other innovations include variable terms for billing customers, variable discounts, and the ability to designate customers as "temporary."

The bad news: There is no online help (however, screen prompts are exceptionally clear), and the manual isn't as much help as we wished. It does not include payroll or inventory options. And BACK-TO-BASICS does not work with a hard disk yet.

However, it is an efficient and simple-to-use accounting system well suited for small businesses — a good value for the money.

24 Detailed A/R Ledger.

DETAILED A/R LEDGER
Scott's TV & Stereo
PERIOD: 11/01/84 TO 11/30/84

DATE	REFERENCE	BALANCE 0 - 30	BALANCE 31 - 60	BALANCE 61 - 90	BALANCE OVER 90
		ALL C[illegible]NERS			
Robert Anderson					
001000	BAL. FWD.	0.00	0.00	0.00	0.00
11/07/84	INV00100	380.58			
11/07/84	CKPCash	-75.00			
	TOTALS	305.58	0.00	0.00	0.00
James Eldridge					
002001	BAL. FWD.	0.00	0.00	0.00	0.00
11/20/84	INV105	293.18			
11/20/84	CKPCash	-50.00			
11/21/84	INV108	29.10			
	TOTALS	272.28	0.00	0.00	0.00
William Harris					
002050	BAL. FWD.	0.00	0.00	0.00	0.00
11/09/84	INV101	273.26			
11/09/84	CKP1966	-75.00			
11/12/84	CHP1	-13.78			
11/12/84	INV1	22.83			
	TOTALS	207.31	0.00	0.00	0.00
Dorothy Russell Jr.					
002902	BAL. FWD.	0.00	0.00	0.00	0.00
11/17/84	INV106	201.14			
11/17/84	CKP572	-50.00			
11/21/84	INV107	40.33			
	TOTALS	191.47	0.00	0.00	0.00

As it is the end of the month, it is necessary to "close" out this month and open the books for the next month. The program will automatically increment the month, "age" the receivables balances in the customer accounts and create the necessary journal entries. The system will also post the necessary journal entries to the proper General Ledger accounts if the modules are linked.

•

Jim and Vera have given some thought to their business accounting and how this affects their accounting system. They have made a list of people they have contacted about doing business with them. They feel confident that these people will be good customers and therefore need to be set up as accounts in their Receivables system. They have gathered together the following information for each of these customers: name, address, phone number, credit limit, the terms of their account, whether or not the customer is tax exempt and whether or not finance charges should be applied if needed. If all of these customers were not new, then Jim and Vera would have also noted the year-to-date sales, year-to-date finance charges, current balances and past-due balances for each customer.

Keeping track of little things . . .

MAC-BARCODE

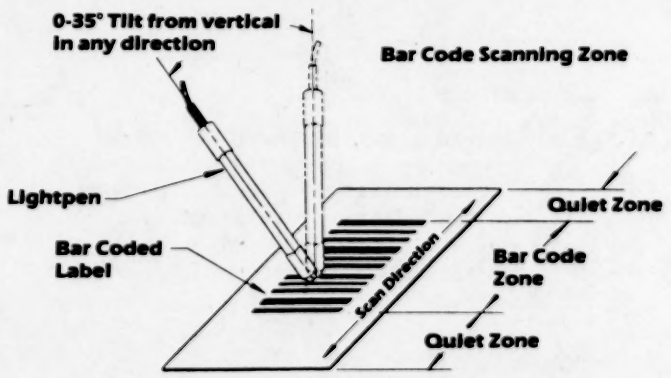
MAC-BARCODE (for the Macintosh) $395; Scanstar-Mac $600; both from Computer Identics Corporation, 5 Shawmut Road, Canton, MA 02021; 800/622-2633 (in MA: 617/821-0830).

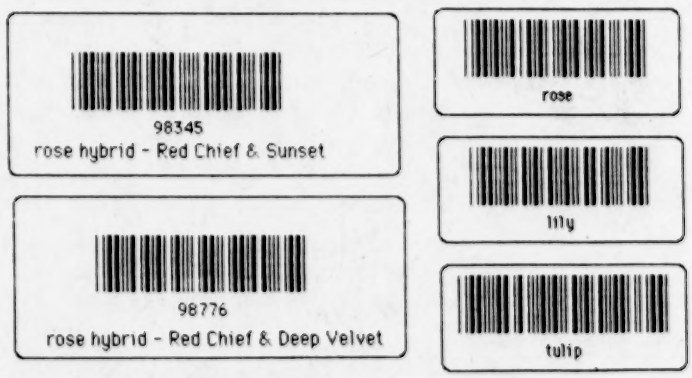
KEVIN KELLY: Invented by big business to track very large inventories, bar codes can benefit small businesses tracking smaller inventories, if there's simple gadgetry to do it. This two-part device does it with the Macintosh. It prints out and reads bar codes in any of the six common coding systems, including the ubiquitous UPC code found on store merchandise.

The software side of the program will print bar-code labels one at a time or in batches, and pretty much allow you to design the label. You can feed it information in the form of a database, which means that instead of printing out pages of numbers or words, you get a sheaf of bar codes which are readable by the second part of this tool, a scanner.

The simplest scanner is a light pen with interface box that turns bar-code information into normal keyboard data — it plugs into the keyboard hole so the Mac thinks you're typing in info each time you scan a bar code. The information can then be manipulated by any Mac spreadsheet, database, or inventory program. It'll read any code style, and the labels the Mac prints can be read by any other scanner — such universality being the whole point.

My sister, who helped this product get off the ground, reports that it is being used by companies for ID cards, by health-care centers to track X-rays and medicines, by libraries to track books, and by small manufacturers who must meet the Department of Defense's specification that all items be bar-coded. I could think of a few other businesses where MAC-BARCODE would ease the load, such as warehouses, ticket printers, plant breeders, research labs, and high-volume retail stores.





So I could keep track of the hybrid varieties in my hypothetical nursery I ran out bar code tables to stick to the seed trays.

Checkbook-style accounting . . .

ONE-WRITE PLUS

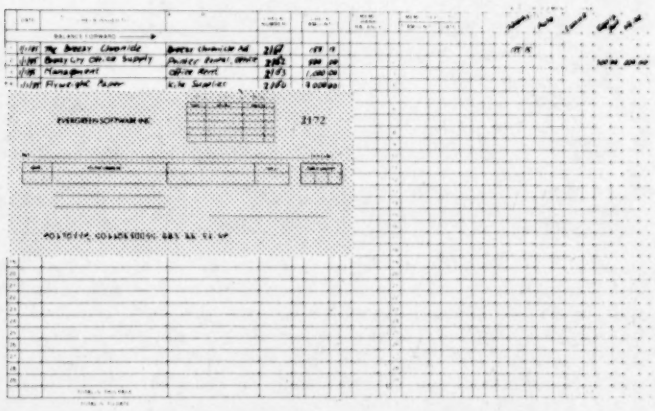
Roger Melanson and Paul Johnson. Copy-protected. $295; street price $190. IBM PC/XT/AT/compatibles (128K). Requires 2 disk drives. Evergreen Software, Inc., The Meeting Place, Amherst, NH 03031; 800/528-5015 (in NH: 603/673-0830).

HOWARD DYER: For those who need the services of an accounting program but haven't time or motivation to learn much about accounting. If you write checks for your business, and keep a cash journal, you already know many of ONE-WRITE's procedures.

ONE-WRITE PLUS extends the "one-write," or "safe-guard," check-writing system into the world of microcomputers. This is checkbook-style accounting. The computer handles the debits and credits, prepares those pesky financial reports, and writes the checks. It makes the setting up and operation of a general ledger accounting system so easy it's almost fun.

But there's a price: since this isn't a true double-entry system, entry errors are harder to catch. The cash and distribution report printouts need to be carefully audited to catch keying-in errors.

The screen organization is simple and clear. You can set up a complete or partial chart of accounts which can easily be edited or added to later. The cash journals allow for 25 disbursing accounts (13 predefined). For cash disbursements, a model journal is shown with a check form in the lower part of the screen.



Manual one-write system.

One-Write Plus | KITEFLY CORPORATION | CASH BAL: 164,344.85

CASH DISBURSEMENTS JOURNAL

DATE / LINE #	PAYEE / EXPLANATION	CHECK NUMBER	CHECK AMOUNT	((1)) ADVERTISING EXPENSE 5100	((2)) AUTOMOBILE EXPENSE 6100
01/01/85 4	MANAGEMENT OFFICE RENT, MAINTENANCE	502 C	1,000.00		
01/01/85 5	***VOID CHECK*** FLYWEIGHT PAPER	503 V	0.00		
	FOR:				
DATE 01/01/85	PAY TO THE ORDER OF	CHECK NO	AMOUNT		

Enter the check date, press F3 to edit or void a check, or press F10 to end

We all make mistakes. It's possible to record a manual check incorrectly, so ONE-WRITE PLUS allows you to change the check description and distribution account, that is, all the check information contained on the Cash Disbursements Journal. Computer checks, already printed, cannot be easily changed. The only information you can change in a computer check is that information which does NOT appear on the printed check, namely, EXPLANATION OF CHECK and DISTRIBUTION ACCOUNT. If you need to change the date, check amount, payee, or check number on a computer check you must void that check and print another.

JAN PEHRSON: With this cash-based general ledger system, you don't need training in accounting theory to understand what to do. The manual addresses the role of the bookkeeper in customizing the program and in overseeing its use. In this sense, it's more honest than many programs which try to imply that the computer operator is an automatic accounting whiz and can just load and go.

•

In the manual one-write system there's a carbon strip on the back of each check, so that as you fill out your check, a record is being copied onto one line of your journal. You only have to write it once.

To the right of your checks are columns showing various cash disbursement accounts. You write the amount of your check in the proper column and you're done.

Throughout the month, as you write more checks, the number of lines in your journal grows. It's a record of your monthly expenditures. At the end of the month, you can total up the columns to see how much you've spent for supplies, salaries, etc.

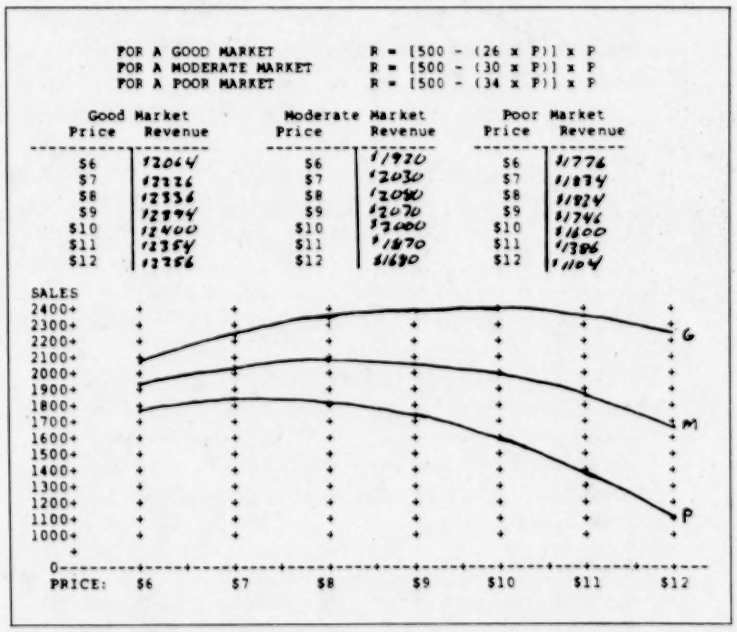
Practice starting a business . . .

THE WHATSIT CORPORATION

Waterford, Michigan, School District. Copy-protected. $55; street price $45. Apple II family; TRS-80 Models I, II, 4. Sunburst Communications, 39 Washington St., Pleasantville, NY 10570; 800/431-1934 (in NY: 914/769-5030).

JULIE ASKELAND: This challenging simulation is designed to teach children about business, but it's also an excellent test-run for adults thinking of opening a small business. You begin the game with enough money to purchase and operate a one-product business for six months. During the six months you must make weekly and monthly decisions about inventory, advertising, hiring and firing salespeople, setting prices, borrowing money, paying principal, hiring accountants and outside consultants. In addition, you have to keep records, pay state sales taxes, and contend with product shortages and late shipments.

Notes explaining the value of an economist and accountant are included in the package along with practice worksheets. A half-hour run-through of THE WHATSIT CORPORATION is enough to get a good sense of what operating a small business is like. If you take the time to study the additional materials, however, you'll find it a very complete introduction to the real world of small business and its intricacies.



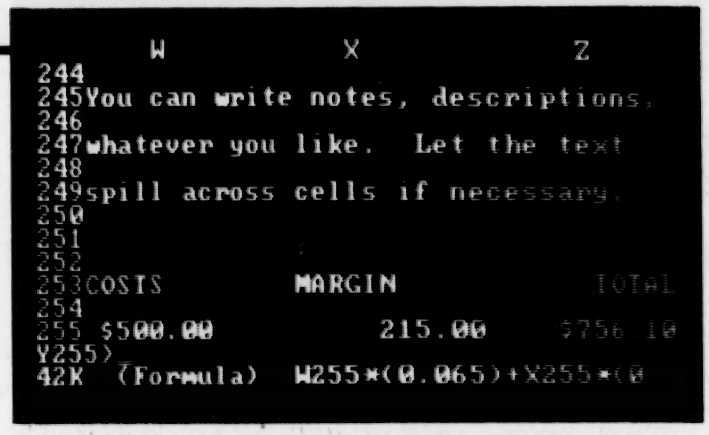
The WHATSIT owner can use graphs to help decide what price will generate the greatest revenue (R). To find the revenue, the owner multiplies the number of sales by the price.

Shareware spreadsheet . . .

PC-CALC

Version 2.0. Not copy-protected. Shareware; $48 registration fee for disk and manual. IBM PC family and compatibles (128K). Buttonware, P.O. Box 5786, Bellevue, WA 98006; 800/528-8866 (in WA: 206/746-4296).

WOODY LISWOOD: Spreadsheet of the shareware kind. Try it, copy it, give it to your friends. If you like it, register it, get the printed user's guide and away you go. PC-CALC is a full-featured spreadsheet with many of the functions you will want to use. The price is right. However, the program is written in BASIC (therefore slow) and has limited size (26 columns and 255 rows). If these limitations don't bother you, if you rarely have need for a spreadsheet, or if you always wondered whether you really wanted to use a spreadsheet, this is a good way to go. I recommend it over PFS:PLAN, another relatively limited but inexpensive spreadsheet ($140, from the folks who also sell the popular PFS:FILE), because PC-CALC is more fully featured, less expensive, and you don't have to pay for it unless you like it.*



Column Z is a total of W and X and hidden column Y, which is defined by the formula partially displayed on the bottom line. We found PC-CALC easy to use and flexible, with lots of features.

*** Software Publishing Corp., 1901 Landings Drive, Mountain View, CA 94303; 415/962-8910. See WESC p. 80.**

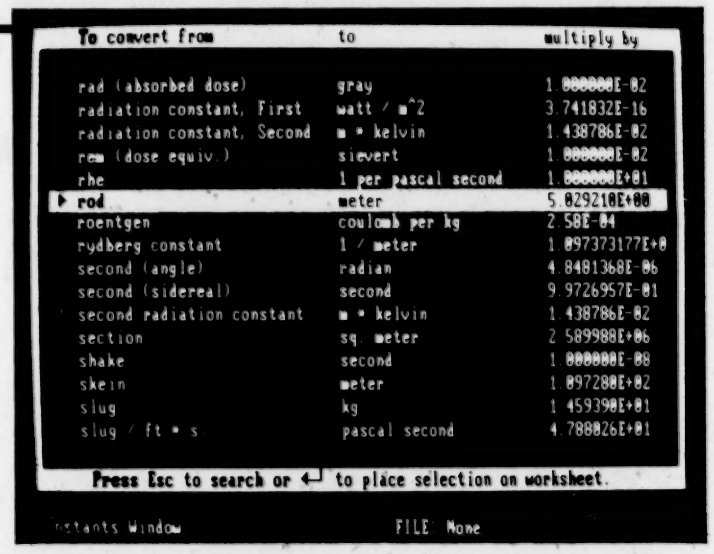
When a spreadsheet isn't enough . . .

EQUATE

Version 1.1. Not copy-protected. $195; street price $140. IBM PC/XT/AT/compatibles (128K). Equate Research Corporation, 5632 East Third St., Tucson, AZ 85711; 602/745-8086.

WOODY LISWOOD: One of the problems with life in the digital world is that solutions to some mathematical problems require formulas that won't work in the slick and easy spreadsheet environments. EQUATE has many of the same functions as a spreadsheet, but in addition, its programming language lets you design formulas and build equations that spreadsheet programs would just burp at.

You get a few preformatted worksheets and one worksheet that contains most of the constants you might need for an equation but can't find or remember. Once you've built an equation, EQUATE will prompt you for missing variables. Solutions are actually printed in a table format which looks indistinguishable from a typical spreadsheet. It's the only program of its kind on the market.


To convert from to multiply by
rad (absorbed dose) gray 1.000000E-02
radiation constant, First watt / m^2 3.741832E-16
radiation constant, Second m * kelvin 1.438786E-02
rem (dose equiv.) sievert 1.000000E-02
rhe 1 per pascal second 1.000000E+01
▶ rod meter 5.029210E+00
roentgen coulomb per kg 2.58E-04
rydberg constant 1 / meter 1.097373177E+0
second (angle) radian 4.8481368E-06
second (sidereal) second 9.9726957E-01
second radiation constant m * kelvin 1.438786E-02
section sq. meter 2.589988E+06
shake second 1.000000E-08
skein meter 1.097280E+02
slug kg 1.459390E+01
slug / ft * s pascal second 4.788026E+01
Press Esc to search or ↵ to place selection on worksheet.
nstants Window FILE None

Hard-working mathematicians, engineers, statisticians, and such have to convert a lot of constants. EQUATE includes a table of conversions to which we can add our favorites. Here we've highlighted the conversion from rods to meters. When we return to our equation, the program will insert our selection and we can continue our calculations.

Cover-your-ass software . . .

LIGHTYEAR

Version 1.0. Copy-protected. $495; street price $335. IBM PC/XT/AT/compatibles (192K). Lightyear, Inc., 1333 Lawrence Expressway, Bldg. 2, Santa Clara, CA 95051; 408/985-8811.

SHARON RUFENER: Say you're shopping around for a car. You've done your homework and your head is swimming with information. Here's how you deal with it: Tell LIGHTYEAR the names of all the cars you're considering. Then, type in all the functions and features you consider important (price, mileage, comfort, mechanical reputation, turning radius, size, beauty, etc.) and specify how important each item is (very important, somewhat important, etc.). Finally, go through the list of cars and give each a score for each of the criteria (hmmm, I'll give the FlashMobile a nine on a scale of ten for beauty). And you can add rules like, "If the car costs more than $6000, then the mileage must be more than 40 miles per gallon." You make lots of little decisions, LIGHTYEAR adds everything up and makes the big decision: a competitive ranking of the contenders displayed in bar chart form.

LIGHTYEAR is elegant. My only gripe is that it's a simple little $100 product with a $500 price tag. But, even so, does anyone really need it? LIGHTYEAR does make a wonderful gamesmanship tool for corporate politicians. If you can't avoid having to make a decision which is bound to create flack, you can pass the buck by leaving the matter up to your computer. And if LIGHTYEAR doesn't come up with the answer you want, you can always go back and change the criteria to force the desired conclusion. Or if you cannot change the criteria, just re-weight them so that it gives you what you want, then show the pols the printout. An impressive-looking printout from the oracle residing in your computer carries more credibility than an unaided conclusion arrived at by a mere mortal.

WOODY LISWOOD: I like LIGHTYEAR. A blast to use, even if you could do the same thing with almost any spreadsheet. The graphics make seeing the results of your decisions rather frightening. I suspect that with a little practice you could prove anything to anybody with LIGHTYEAR. It is too bad that you supply all the weighting because you know, then, what the answer will be before you start. Even if it is unconscious.

STEVEN LEVY: I agree with Woody on LIGHTYEAR. The idea, though, is that someone will eventually generate template programs for specific problems, with the weighting built in. So you can get the T. Boone Pickens template, which picks out an oil company to take over after you give sample data on various companies. I guess those templates (which have yet to appear, and probably won't unless lotsa people buy LIGHTYEAR) will depend on the user to provide the formulas for weighting. In any case, it's not a decision-maker but an ass-coverer.

Attacking personal chaos . . .

HIGGINS

Version 1.0. Copy-protected. $395; street price $270. IBM PC/XT/compatibles. Conetic Systems, Inc., 1470 Doolittle Drive, San Leandro, CA 94577; 415/430-8875.

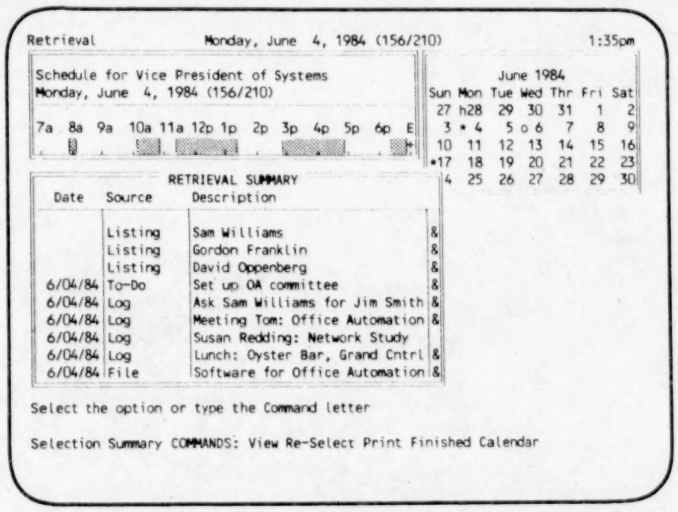
RICHARD DALTON: I've spent a substantial portion of my odd moments looking for a method, system, program (or even person) that could help "organize" my work (writing a newsletter each month). I'm now on my third computer and maybe two hundredth program pursuing this nagging problem — and I think I've gotten lucky.

The potential silver bullet is a sneaky-fast program with the unlikely name "HIGGINS." The image is of a consummately competent butler, always available, who often anticipates and quickly responds to your needs. It's not a bad metaphor.

HIGGINS takes on the Herculean task of providing access to all appointments, "to-do" items, people you need to contact, expenses you incur, and notes you make, correlating these (and cross-correlating them) with various projects or temporary associations as needed.

That may sound like the goal of all the "desktop organizer" software coming on the market, but HIGGINS offers a lot more — in fact, so much that it takes a couple of weeks of constant use just to uncover what it's really all about. One major key is that it is built on a fully relational database manager. That's nice, and once you realize that it's there, you also get to forget about it, since you never have to do anything to make use of the sophisticated programming. You merely tell HIGGINS to relate an appointment to project X and person Y and it's there. If you want to review all contacts you've had with Y or all the work you've done on project X, HIGGINS pulls it together for you — including hours and/or money spent (if you recorded the information).

Beyond that, HIGGINS doesn't cut you off from everything else (like Electronic Arts' GET ORGANIZED, for example). There is an XTERNAL command that lets you hop out and run another program. Exit the second program and you are automatically swept right back into HIGGINS. You can similarly bring external files into HIGGINS so they can be organized using the same relationships you have established for internal HIGGINS entries.

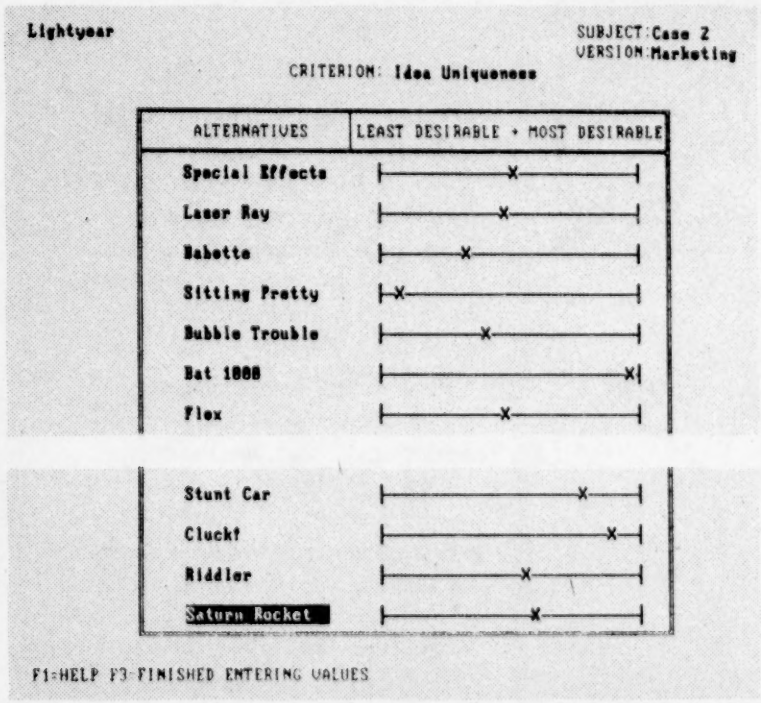

Retrieval
Monday, June 4, 1984 (156/210)
1:35pm
Schedule for Vice President of Systems
Monday, June 4, 1984 (156/210)
7a 8a 9a 10a 11a 12p 1p 2p 3p 4p 5p 6p E
June 1984
Sun Mon Tue Wed Thr Fri Sat
RETRIEVAL SUMMARY
Date Source Description
Listing Sam Williams
Listing Gordon Franklin
Listing David Oppenberg
6/04/84 To-Do Set up OA committee
6/04/84 Log Ask Sam Williams for Jim Smith
6/04/84 Log Meeting Tom: Office Automation
6/04/84 Log Susan Redding: Network Study
6/04/84 Log Lunch: Oyster Bar, Grand Cntrl
6/04/84 File Software for Office Automation
Select the option or type the Command letter
Selection Summary COMMANDS: View Re-Select Print Finished Calendar

The Calendar is the first display that you see after you start Higgins. In addition to controlling the display of the Calendar and the Appointment Bar Graph, the Calendar command provides access to the other major areas of Higgins.

The system is in its first version and has some drawbacks: it's slow in some situations (but I keep reminding myself how long it used to take to juggle paper); it isn't very flexible (expenses have to be accumulated in fixed categories: good if you don't have an expense recording system, bad if your business already has one); it will schedule conflicting appointments without notifying you; and, like so many other programs, it fails to include foreign telephone conventions in its otherwise substantial directory functions. Finally, it costs a lot — $395 list, $270 street — but then, so does disorganization; and it requires a hard disk.

Still, it's the best I've seen in the embryonic "people/event management" software category. Why am I so turned on? HIGGINS is the first program I've found that justifies leaving my IBM PC on all day.

They have a beautifully packaged demo available that I don't recommend. You have to USE this software to understand it.



Beginning at the top with Special Effects, use the right and left arrow keys to move the 'x' to a position between "least desirable" and "most desirable." Then go down the list. Do this for each category, such as Idea Uniqueness, Cost, Dependability, etc., that is important to your decision.

UPDATE

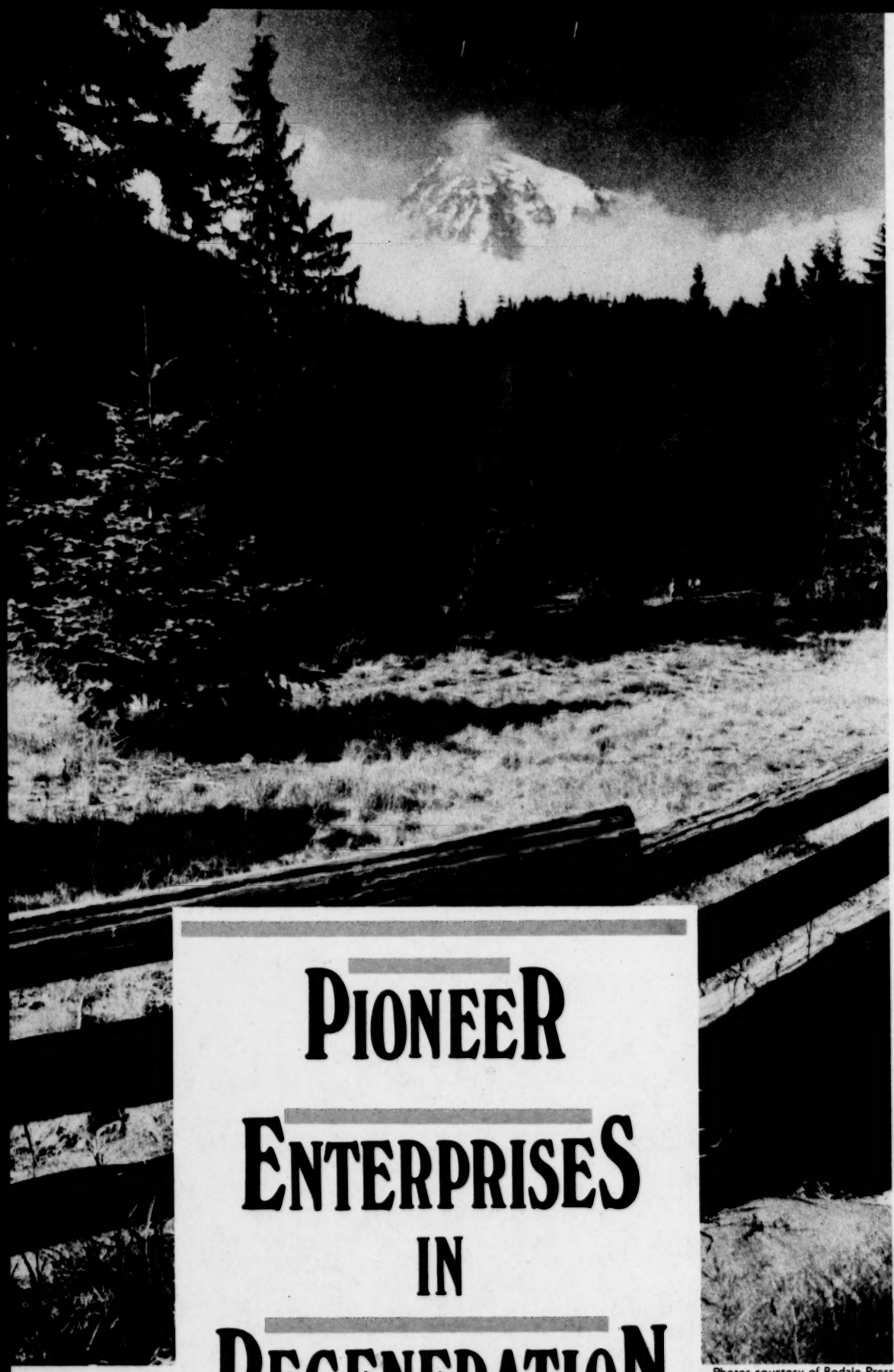
More of the same is just fine

WOODY LISWOOD: Many new statistics programs are being announced, but even though they have different menus and file structures, they all seem to do the same thing as the ones we've already recommended — there are no substantive improvements.

*As far as spreadsheets go, I continue to be impressed with SUPERCALC 3. Revision 2 now has 9999 rows (SYMPHONY has as many, but it's a memory hog — you need about 240K more RAM to run the same size spreadsheet; LOTUS 1-2-3 (**WESC** p. 67) is easier on memory but it's limited to 2080 rows per spreadsheet). In addition, SUPERCALC 3 doesn't store blank cells, which means more RAM memory is available for data — something neither LOTUS product can lay claim to. For these reasons, and because it isn't copy-protected (unlike LOTUS 1-2-3), I think it's the best spreadsheet buy for the PC/MS-DOS worlds.*

*MULTIPLAN (**WESC** p. 70), the spreadsheet that you'll find on most computers (including Atari and Macintosh) and a favorite with people who like to link multiple worksheets, has now landed inside the chip of the new Tandy Radio Shack Model 200 portable computer.*

SUPERCALC 3 ($395; street price $195): Sorcim/IUS Microsoftware, 2195 Fortune Dr., San Jose, CA 95131; 408/942-1727.



"I see in agriculture the ingredients for a regenerative system that would continually improve and purify the land, water, and air. Not only that, it would cause rural communities to thrive again. This new incarnation of agriculture would be a 'pasture' that would nourish surrounding people and communities."

PIONEER ENTERPRISES IN REGENERATION ZONES

THE ROLE OF SMALL BUSINESS IN REGIONAL RECOVERY

by Robert Rodale

Photos courtesy of Rodale Press

"Organic" was a notion J. I. Rodale set loose from gardening methods. It quickly rooted throughout two decades of contemporary thought, filling up any vacant lot in need of a philosophy, but also enriching environmental attitudes and sharpening agricultural practices.

His son Robert Rodale, current editor of Organic Gardening *and* Prevention *magazines, has been steadily unleashing a second generation of this concept: first as "Cornucopia," a food system improved by encouraging local circuits, now blossoming as "Regeneration," husbandry methods for local economic health. This is the deepening cultivation of bioregions. The buds of current thinking appear in* Regeneration, *a quarterly newsletter ($8/year, 3 E. Minor St., Emmaus, PA 18049).*

—Kevin Kelly

REGENERATION is rooted in the idea that people living within an area that is not thriving can restore their economic health by making greater practical use of nearby natural resources, particularly those that are self-restoring. That natural process of regeneration — what I call the benign force of nature — is almost universal and exerts its power continuously, unless environmental degradation has proceeded too far.

For example, if given a chance to rest, soil regenerates naturally. So does water and air. Abundance plays a role in that regeneration. Soil, for example, is exposed to abundant sunlight, abundant air, and often abundant moisture and abundant seeds of restorative plant species. When given the opportunity, those continually-available resources help to make soluble the locked-up minerals in soil, and cause regeneration.

Air and water can also regenerate and return to past levels of purity if allowed to flow unimpeded through the biological cycles which characterize their existence. Land regeneration has been observed more carefully, however, because land stays in one place and the process of regeneration can be watched over a long period of time.

Regeneration zones are self-defined areas in which the economy grows through the substitution of locally produced goods and services for imported ones.

Both land and regeneration zone development share a similar place orientation. Conventional development, by contrast, knows only global limits. Any market and any resource anywhere in the world are considered candidates for conventional development. But regeneration zone development concentrates primarily on potential markets and the best use of resources within a zone. That fact suggests that it would be profitable to examine closely how regeneration occurs in a natural ecosystem.

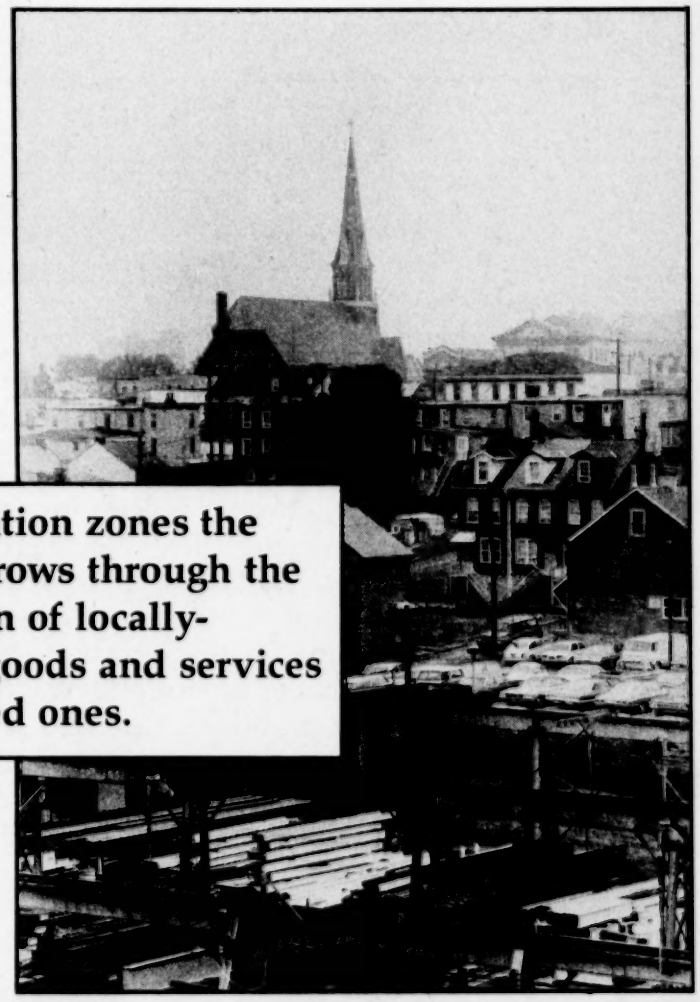
People creating regeneration zones might think about one quality shared by depleted economic regions and undeveloped natural areas. They both are characterized by low input levels — particularly energy inputs. A natural region enjoys a continual supply of solar energy, but it is dispersed and can't be increased suddenly to replace the energy embodied in a climax plant community that has been destroyed. Similarly, a human regional community often has difficulty getting a large influx of capital from outside itself to meet recovery needs after its mature economy has been destroyed.

Most natural regions respond to the destruction of their climax plant populations not by recreating the same collection of plants (which embody a large amount of minerals and energy per unit of land area), but by establishing waves of different types of plants that accumulate energy and minerals within themselves gradually. Each wave of plants prepares the way for later waves, both by improving the environment and by embodying more nutrients and energy. That process is called *succession*.

The word *pioneer* is commonly used in ecology to characterize the plants of an early stage or stages of succession. F. E. Clements, in his 1905 classic *Research Methods in Ecology*,[1] specified that pioneer plants have these properties:

1. Great seed production.
2. High seed mobility.
3. High light requirements.
4. Ability to tolerate disturbed environments.

Plants that combine those four properties are uniquely able to move into an environ-



In regeneration zones the economy grows through the substitution of locally-produced goods and services for imported ones.

1. Still available, $30 postpaid from Ayer Company, 47 Pelham Rd., Salem, NH 03007.

ment that has been stripped of its previous plant life and to begin the process of regeneration. The value of great seed production and high seed mobility is obvious. They enable plants to spread over a wide area quickly.

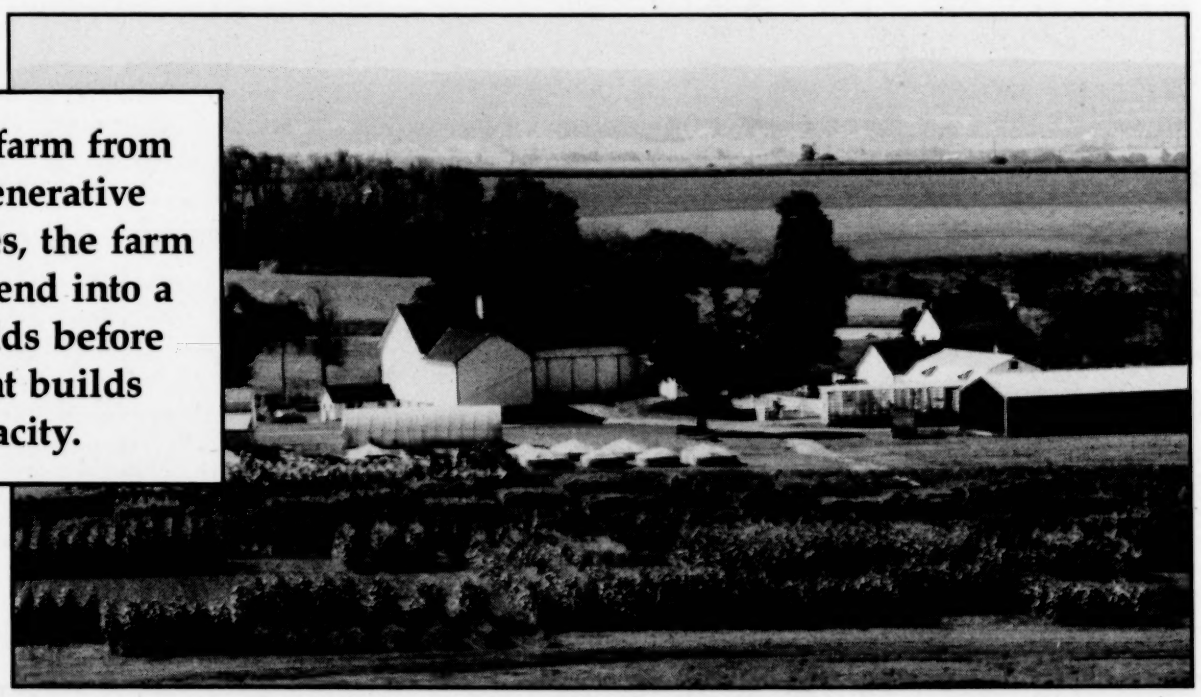
High light requirement is important for several reasons. One is that a disturbed environment almost always lacks shade. And the other is that succeeding waves of plants often *need* the shade of pioneer plants to become established. The trunks of some types of trees, for example, must be shaded when young.

The ability to tolerate disturbed environments speaks to the likelihood that soil quality can be poor in an area experiencing the first stage of succession. A disturbed environment may be low in the fertility needed by later waves of plants.

What is the effect of pioneer plants on the environment? They accumulate organic matter, increase moisture and nutrient supply, and modify light and the general physical environment, according to Robert P. McIntosh, writing in the book *The Recovery Process in Damaged Ecosystems*.[2] In other words, they begin to return to the region those qualities needed to pave the way for a plant economy embodying more energy and nutrients, and exhibiting more diversity and sophistication.

2. John Cairns, Jr., editor; 1980; $39.95 postpaid from Ann Arbor Science Publishers, 80 Montvale Ave., Stoneham, MA 02180.

When converting a farm from conventional to regenerative agricultural practices, the farm economy must descend into a trough of lower yields before the soil environment builds its regenerative capacity.



Succession and Pioneering in Economic Development

We know that when converting a farm from conventional to regenerative agricultural practices, the farm economy must descend into a trough of lower yields before the soil environment builds its regenerative capacity. It is also often necessary to alter the structure of the farm economy to accommodate the switch from one or two crops to a greater number of different plants. That is called a conversion process, but the idea of succession applies directly. Studies at the Rodale Research Center have shown that if the farmer grows certain plants and avoids others, the trough of conversion will be shallower, and will last for a shorter time.

Moving from the farm economy to the general economy of a region being developed as a regeneration zone, we must move from the known and tested into the area of pure speculation. We are dealing with what *could be* rather than what *is*. But I feel that in the future, if we are able to look back on the successful use of regenerative principles in regional economic development, we will be able to see that a process of succession has occurred. One set of enterprises with unique characteristics will begin the process of economic regeneration, and that set will be followed by (and perhaps mixed with) other waves of different kinds of enterprises. And the enterprises in those later waves will have needed the nurturing and the general improvement of the region that the pioneer enterprises have provided.

Before envisioning the nature of possible pioneer enterprises in regeneration zones, we can look back and see the succession of enterprises that were used to build this

country from raw land into its present economy. My purpose is not to urge that we return to the kind of primitive life of the American past. But we can look for patterns that might have meaning for our future.

Home-centeredness characterized the frontier, for example. There were no factories. Almost everything was made and used in the home. Food and clothing were produced, processed, and sold near their point of origin. So was almost everything else.

There is a pronounced trend today to center more production and service in the home. The "health" industry, for example, is returning to the home — where it functioned in frontier times. There is much more interest in working at home — a movement stimulated by the rapid development of computer technology. Home manufacturing of knitted garments has recently been legalized.

Jane Jacobs' book *The Economy of Cities*[3] is a good source of historical information about the succession of enterprises and the effect of different early patterns of industry on later development of city economies. In her chapter "How New Work Begins," Mrs. Jacobs shows that a diversity of enterprise creates a climate for innovation that allows industry in city regions to learn how to substitute for imports quickly and efficiently.

There are no doubt many other sources of historical data about the succession of industry and enterprise that marked the transformation from a pre-industrial to what is now being called a post-industrial culture. While many of the changes in enterprise patterns that happened in our past were antiregenerative, the way successions of industries happened could provide some insights that would be useful in structuring change toward regenerative development.

3. 1970; $4.95 postpaid from Random House, Attn: Order Dept., 400 Hahn Rd., Westminster, MD 21157.

Starting a farmer's market, though, is relatively easy compared to the challenge of convincing the people in a region that such small-scale local production and marketing is a significant step toward self-reliance for the whole community.

Improving the Environment for Pioneer Enterprise

Every regeneration zone begins with a study of the potential for local production of necessities like food, shelter, energy, and transportation, and moves quickly toward fostering local marketing of such production. Small farmers' markets — even tailgate markets — can be the first phase of a regeneration zone effort. They are pioneer enterprises.

Starting a farmers' market, though, is relatively easy compared to the challenge of convincing the people in a region that such small-scale local production and marketing is a significant step toward self-reliance for the whole community. People need to *believe* that small-scale local production and marketing can lead to significant local self-reliance based in regeneration. And projects like farmers' markets do in fact have to lead to a higher level of local self-reliance, in order to justify the cost and effort of setting up a regeneration zone.

I believe that both the reality and the *idea* of

Will pioneer enterprise — after it gets concessions from the society — really fade away and be succeeded by later and more developed waves of enterprise?

pioneer enterprise are important to regeneration zone development. A region lacking in enterprise health and therefore lacking in job opportunities needs to look within itself for local production and market potential, and that potential needs to use more of whatever resources are abundant locally, and less of what is scarce, expensive, and imported. But in order to create a thriving future, the community needs to see and believe that the small first steps toward regeneration will lead later to bigger and better steps. The concept of succession, begun by pioneer enterprise, can be an important part of that vision.

The idea of using the concepts of succession and pioneer enterprise in regeneration zone development are new, and much additional thinking and work needs to be done to move from mere ideas to the reality of community improvement. Some of the questions that need to be answered are:

1. What types of products and services can be supplied by pioneer enterprises?
2. Is size a constraint? Must pioneer enterprises be tailgate or pushcart-type operations, or can they be much larger? How much larger?
3. Does pioneer enterprise need a more permissive and supportive regulatory climate to thrive?
4. How can cooperation within the community create that better environment for pioneer enterprise? Some ideas include:

a. A district for pioneer enterprise within the zone, where a special set of more tolerant business regulations would apply.

b. A Pioneer Enterprise Mall, located in a low-rent district needing regeneration that nevertheless provides a supportive environment for embryonic business — both retail and manufacturing. The Pioneer Enterprise Mall could be a regenerative factory outlet.

c. A Pioneer Enterprise Festival — lasting a week or two — could give a community an opportunity to test the pioneer enterprise concept. Awards and special continuing support could be given to those enterprises that residents of the community attending the festival feel have the greatest potential for regenerative development. In that way, residents would begin to guide the succession process.

d. A Pioneer Enterprise Council could link local government, pioneer entrepreneurs, and the local business community in support of the Mall and other efforts. The knowledge that pioneer enterprise is the first step toward a succession of other and more advanced waves of enterprise could be the conceptual glue holding the Pioneer Enterprise Council together.

The key to mustering total community support for an intensive pioneer enterprise program leads to my fifth question:

5. Will pioneer enterprise — after it gets concessions from the community — really fade away and be succeeded by later and more developed waves of enterprise?

In the plant world, a variety of mechanisms are employed to accelerate succession. All pioneer plants tend to improve the general environment for succeeding waves of plants. Some perform specific functions, like providing shade for the trunks of just-sprouted trees. And some pioneer plants actually commit suicide by autotoxicity. That effect is reported by R. E. Wilson and E. L. Rice in their paper "Allelopathy as expressed by *Helianthus annus* and its role in old field succession."[4] J. McCormick reports a similar observation in "Succession."[5]

The word allelopathy describes a process by which many plants emit chemicals that change the environment for themselves and for other plants, including those that are planted or grow naturally in subsequent seasons. The allelopathic effect is powerful, and is increasingly being used as a tool of natural (and regenerative) weed control in agriculture.

Pioneer plants, when they begin the process of succession by creating a good environment for more important plants, are not weeds. Nor is the tailgate farmers' market or a collection of sidewalk merchants a second-rate form of enterprise. Both are pioneers, and are preparing the way for something better that comes later. ■

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4. *Bulletin of the Torrey Botanical Club* 95:432-448 (1968).

5. *Via* 1:1-16 (1968).

Past Due

BERNARD KAMOROFF: Dealing with creditors who don't pay their bills is, for me, the most difficult aspect of business. This little book, subtitled "An essential primer on the theory, psychology and practice of collecting what's owed you," offers a good deal of useful advice. It pigeonholes different types of creditors — the good, fair, and poor risks; the "seasonal delinquents"; the "disaster victims"; etc. — and how to deal with each. It explains different ways to set up collections systems, including sample collection letters. If people owe you money, this book is worth reading.

•

Even in a letter dunning a debtor for an unpaid bill, the creditor is really writing a *sales* letter. The creditor is trying to sell the debtor on the idea that he must pay up quickly. The creditor should honestly try to see things from the debtor's point of view.

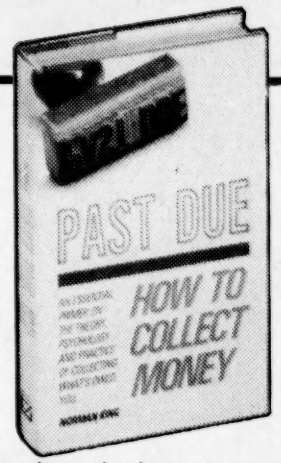
•

The close of a collection letter involves the crux of the problem: it is the paragraph in which the creditor asks for action on the part of the debtor. By the time the problem has been stated and discussed, the debtor knows the details. What he wants to know is what is expected of him.

Such a closing should lay out exactly what the creditor wants the debtor to do, usually within the confines of these three facts: what to do; when to do it; how to do it.

The trick is to do this without offending the debtor.

One key point to remember in phrasing any closing is to leave an opening for the debtor to respond. If the letter does not make it possible for the debtor to answer, by way of explanation, by way of request, by way of pleading, the letter is not a successful piece of writing.



Past Due
(How to Collect Money)
Norman King
1983; 171 pp.
$15.95
postpaid from:
Facts on File
460 Park Avenue South
New York, NY 10016
or Whole Earth Access

One way to encourage a reply is to include a few simple questions at the bottom of the letter—questions about when payment might be expected, if it would help to have the payment halved, if the recipient wants an extension of the entire account.

•

Fees and rates charged by collection agencies vary throughout the country, but are usually fairly uniform within several percentage points. Most of them charge according to the fees set up originally by the Commercial Law League of America. These rates run as follows:

- Fifteen percent on the first $750 collected
- Ten percent on the excess of $750 collected
- Minimum charge of $15
- On items of $45 or less, 33⅓ percent

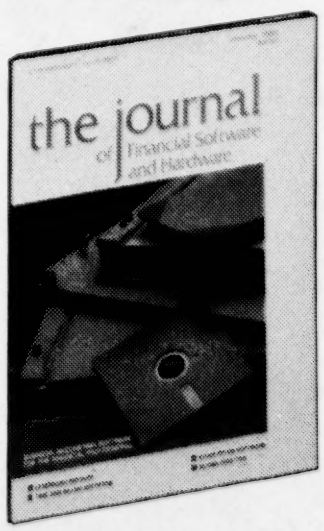
On the other hand, no collection agency or attorney is absolutely bound to charge only that much. A general survey on collection agencies—called "corporate knee-breakers" in a recent issue of *Time* magazine—claimed that most of them "skimmed" from 20 percent to 25 percent off the top of each collected debt.

The Journal of Financial Software and Hardware

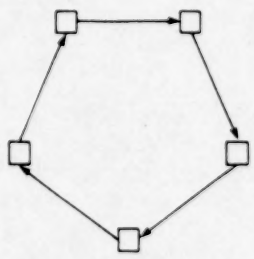
ANDREA SHARP: A good publication to get if you are an accountant or business consultant, or contemplating getting your business computerized and want to be up on the latest. The style is easy to take, short on computer-eze, and accessible to the layman. Along with the usual advertising, there are five or six feature articles that address varied subjects in the financial/computer world, and five or six reviews that give you a good idea of each product. The review format is clear, complete, and includes price and access information. The journal only covers financial subjects, so if that's what you want, you avoid having to slog through all the other stuff in the more generalized computer mags.

•

Unix provides more value when purchasing software in two ways. First, a software purchase will have a longer life because the programs can be easily moved to a new machine should the company decide to upgrade their Unix computer or change brands of hardware for any reason. With many non-Unix based computers, a company would have to discard or re-write the programs when moving from one machine to another. Second, Unix-based software often provides better value than software running on other computers because programmers who have developed software for the Unix environment have an essentially unlimited life for their product. This allows them to lower their prices because their development costs can be spread over many more sales, or they can add features at no additional increase in price.

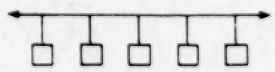


The Journal of Financial Software and Hardware
Caroline Carr, Editor
$20/year
(6 issues) from:
Microthought Publications
2811 Wilshire Boulevard
Suite 640
Santa Monica, CA 90403



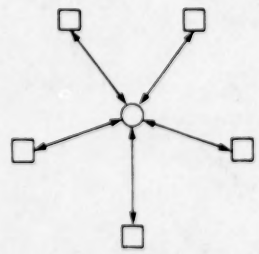
Ring Network

The ring network links computers directly in a circular chain. It is the simplest LAN, and easily implemented. If one computer goes down, however, the network will be inoperative.



Bus Network

A bus network uses coaxial cable to link computers in a linear fashion, like a trunk with branches to personal computers and peripherals. It is sturdier, providing network management capabilities to avoid failures and work stoppages.



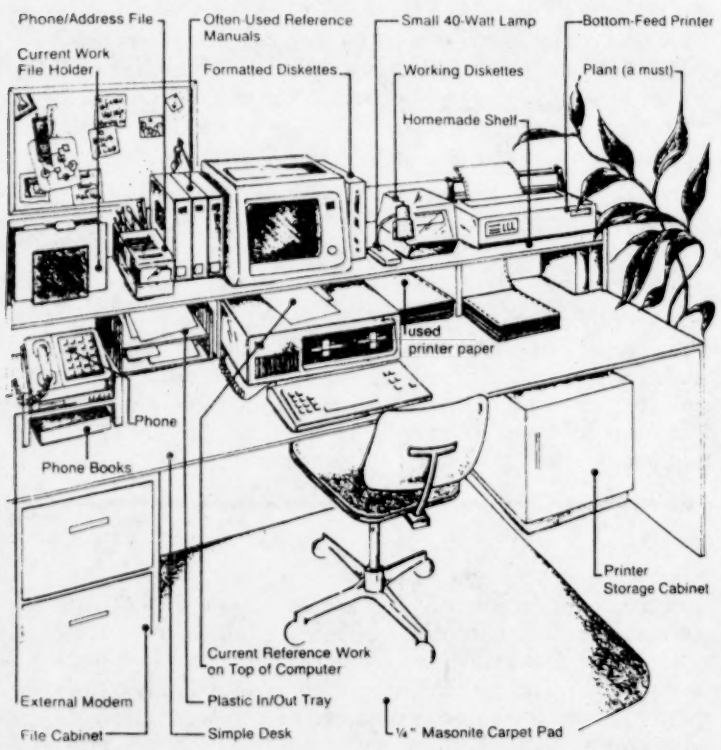
Star-Shaped Network

The star-shaped network links microcomputers through a central computer, or server. The server manages the network, routes data, and chooses correct peripherals for assigned tasks.

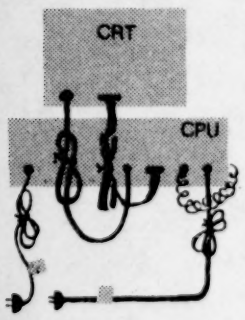
Through the MicroMaze

STEWART BRAND: This is the introductory computer book I've been waiting for. Its subject is the setting up of your personal computer scene — that two-week obstacle that keeps the almost-ready-to-jump from jumping. How to lay out your work area, how to hook everything up, how to get fluent in the fundamentals of your computer's operating system.

With color pictures and good, clear diagrams and, most important, really sensible advice, the book is a comfort and a blessing. Despite two years around these machines I learned an embarrassing amount from it. The operating systems covered are MS-DOS (IBM PCs, Compaqs, Leading Edge, etc.) and CP/M (Kaypros, Morrows, Apples with CP/M card). All that leaves out is the Apple II family, Macintosh, and Commodore 64 and Atari 800.



Organizing your work space.

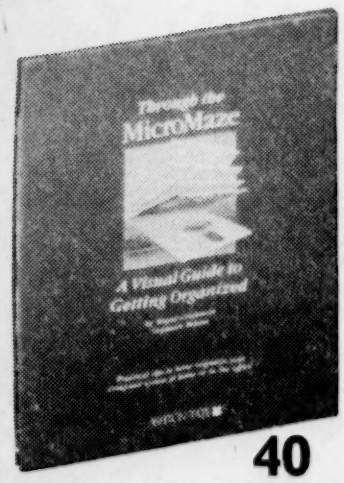


Tidying Up:
Tie the cords up high and they won't be seen below the desk. Labels on the cords will help you find the right one to unplug.

•

Hierarchical Database: In a hierarchical database, the relationships between files and file data are fixed and inflexible. Data can be traded within the structure, but the structure cannot change. This type of software is good for bureaucratic organizational structures, genetic research, family trees, or any topic that can be visualized as a pyramidal structure.

Relational Database: In a relational database, all the relationships between files and file data remain flexible. The software allows you to establish and change relationships at will, and to obtain reports on the data according to those relationships. Any data can be related to any other data. In this type of software, there is a minimum of duplicated data and data can be changed without affecting the structure.



Through the MicroMaze
(A Visual Guide to Getting Organized)
Wayne Creekmore and Stephanie Behasa
1984; 64 pp.

$11.95
postpaid from:
Ashton-Tate
10150 Jefferson Boulevard
Culver City, CA 90230
or Computer Literacy

BILL ATKINSON TURNS THE TABLES ON THE VIDEO CREW AND SHOOTS THE CAMERAMAN WITH HIS OWN CAMERA, CONNECTED TO MACVISION.

A videotape of Bill Atkinson demonstrating MacVision at the Hackers' Conference is frame-frozen and digitized using MacVision.

Eyes for the Mac . . .

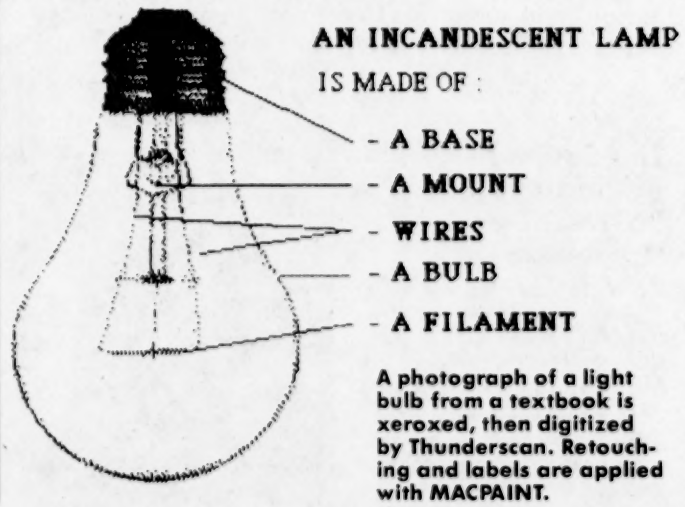
Thunderscan • MacVision

Thunderscan: Andy Hertzfeld. Version 1.3. Not copy-protected. $229; street price $183. Macintosh. Requires ImageWriter printer. Thunderware, Inc., 21 Orinda Way, Orinda, CA 94563; 415/254-6581.
MacVision: Bill Atkinson. Version 1.1. Not copy-protected. $400; street price $226. Macintosh. Requires video input source. Koala Technologies, 2065 Junction Ave., San Jose, CA 95131; 800/562-2327.

FABRICE FLORIN: Perhaps the Macintosh's biggest claim to fame is its ability to manipulate fairly high-resolution graphics with relative ease. Up until now, you couldn't really take full advantage of that unique feature unless you had the time and/or the talent to draw the quality pictures that truly get the most out of your Mac.

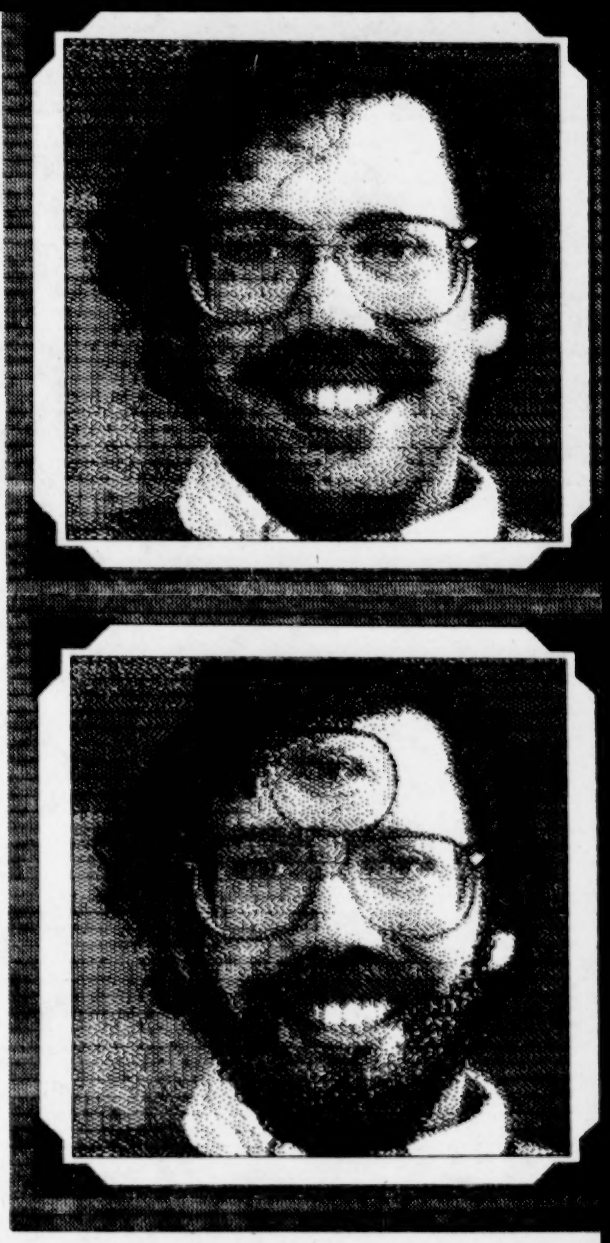
Enter digitizers. These nifty little gadgets replicate original printed or video images onto your Macintosh screen, saving non-artists endless hours of painstaking data entry in the process. Click a mouse and — presto — the digitizer scans a complex engineering diagram and adds it to your technical report or incorporates the latest snapshot of your cute offspring into your letter to Granny.

The resolution is not as good as, say, a decent photocopy of the original, but you can do all sorts of neat things with your digital reproduction that wouldn't be easy otherwise. For instance, you can reduce the picture, move it, crop it, flip it, label it, duplicate it. You can also use your modem to send it electronically across the world in a matter of minutes. Digitizers are great for any application that does not require high-quality reproduction — newsletters, memos, mock-ups, etc. I found the process to be slower than making a Polaroid or xerox of your original and cutting and pasting it by hand with real paper. But you'll really start saving time if you have to revise that work over and over again.



A photograph of a light bulb from a textbook is xeroxed, then digitized by Thunderscan. Retouching and labels are applied with MACPAINT.

Brueghel in FAT BITS. Any kind of art, including masterpieces, can be digitized with Thunderscan if it's flat enough to go through a typewriter roller. This was first photocopied from an art book.



The author of MacVision, Bill Atkinson, pointed the camera at himself. His gizmo digitized his portrait and framed it with a snapshot border on the Mac screen (above). Then Jay Kinney, our cartooning editor, used his Macintosh to hack Bill's alien double (below). He selected Bill's left eye on the digitized photo, then replicated it on his forehead, retouching with FAT BITS. To finish the transformation he used the graffiti-like SPRAYCAN to add a beard.

*Thunderscan and MacVision were developed independently and almost simultaneously by two former members of the original Macintosh design team, Andy Hertzfeld and Bill Atkinson, who both were active participants at the Hackers' Conference (***WER** *#46, p. 44). One program scans images on paper, the other video pictures. Both products work well and their respective results are very similar.*

Thunderscan is what you'd call a superb and really clever "hack." It converts your ImageWriter printer into a personal copying machine by simply replacing the ribbon cartridge with an optical scanner. Insert your original illustration into the printer, press a button, and voila! The graphic is scanned line by line and an exact replica appears on your screen within minutes. Only a pure hacker like Andy Hertzfeld could have thought of such an elegant solution to the digitizing problem: no need for a camera, just put your printer into reverse!

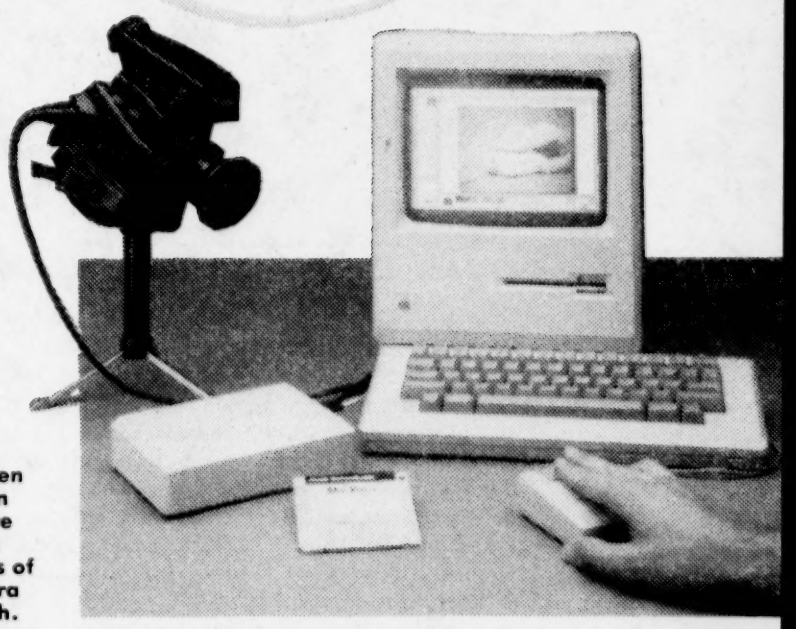
Thunderscan offers onscreen control of brightness and contrast as well as a number of other goodies, including the ability to magnify, reduce, and create halftone and high-resolution versions of your picture. It also comes equipped with some of the basic painting tools required to process the picture on the spot (pencil, eraser, etc.), although it can always be retouched later with MACPAINT's full features.

Despite Thunderscan's inventive design, a number of drawbacks limit its usefulness. First, it is quite slow, taking several minutes to scan a letter-sized document and about the same time to print it back. Second, books and thick documents like Polaroids or cardboard materials have to be photocopied before they can be digitized so they'll fit in the printer. Finally, photographs don't reproduce as well as line drawings. Still, Thunderscan is the neatest "Mac-Gizmo" I've seen to date and, for a couple hundred bucks, definitely worth it if you need to reproduce graphics regularly and don't have video equipment.

With MacVision, you can digitize pictures from any source, whether a camera, monitor, cassette recorder, or disc player. The MacVision hardware unit connects the video output of your choice to the printer or modem port of your Mac. Two knobs control brightness and contrast and the software does the rest. MacVision can only digitize still shots or freeze-frames that'll stay still long enough to scan and adjust the picture to your liking. You can either scan the picture so that it will fill the entire screen (20 seconds/high-res) or just scan a smaller window (4-5 seconds/lower res).

The only trouble with MacVision is that it won't do you any good unless you have easy access to video equipment. But if you do, you're in for quite a visual treat. I've successfully used MacVision for print presentations on television programs I've produced, and I'm delighted.

The Thunderscan cartridge replaces the Macintosh ImageWriter printing cartridge. It reads instead of writes.



The go-between of a MacVision unit (hardware box and disk) lends the eyes of a video camera to a Macintosh.

27 GATE FIVE ROAD SAUSALITO CA 94965

DIGITAL RETOUCHING

The End of Photography as Evidence of Anything

by Stewart Brand, Kevin Kelly, Jay Kinney

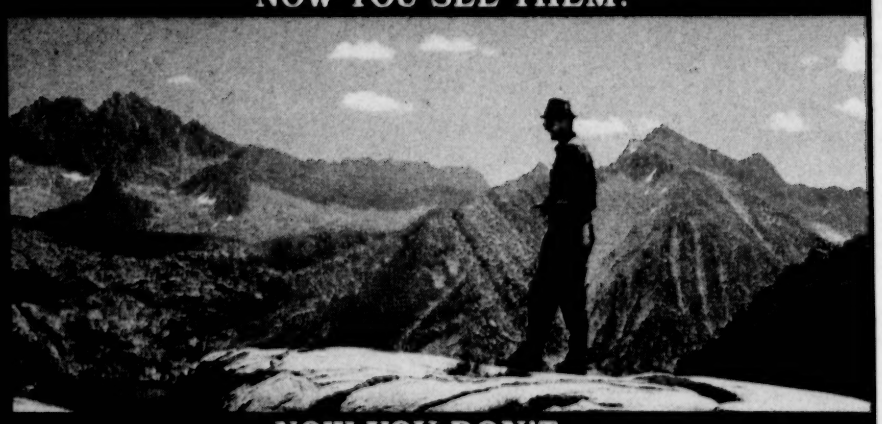
"Your honor, we cannot accept this photograph in evidence. While it purports to show my client in a motel bedroom with a woman not his wife, there is no way to prove the photograph is real. As we know, the craft of digital retouching has advanced to the point where a 'photograph' can represent anything whatever. It could show my client in bed with your honor.

"To be sure, digital retouching is still a somewhat expensive process. A black-and-white photo like this, and the negative it's made from, might cost a few thousand dollars to concoct as fiction, but considering my client's social position and the financial stakes of this case, the cost of the technique is irrelevant here. If your honor prefers, the defense will state that this photograph is a fake, but that is not necessary. The photograph COULD be a fake; no one can prove it isn't; therefore it cannot be admitted as evidence.

"Photography has no place in this or any other courtroom. For that matter, neither does film, videotape, or audiotape, in case the plaintiff plans to introduce in evidence other media susceptible to digital retouching."

—Some lawyer, any day now

NOW YOU SEE THEM.



NOW YOU DON'T.

STEWART BRAND: *Time* magazine does it. *USA Today* does it. *National Geographic* does it and has caught some flak about it. Very soon nearly everyone will do it, and the culture will be different as a result.

They all use high-tech page makeup processes that involve turning photographs into computer data, where it is so easy to fiddle with the images that the temptation is overwhelming. This new capability comes from the merging of laser technology, used to scan the original photographs and convert them into digital data, and computer technology, whose increasing power at decreasing cost allows sophisticated manipulation of the no-longer-photographic image.

National Geographic moved one of the pyramids of Giza to suit their cover design. *Popular Science* put an airplane from one photo onto the background of another photo on one of their covers and then bragged about how they did it inside the magazine. In a book of photographs of France, the photographer removed unsightly telephone poles from the picture of a Basque shepherd (see back cover). The *Whole Earth Review,* in questionable taste, appealed to mass credulity with a completely phony "photograph" of flying saucers on its cover.

One of the major manufacturers of the electronic retouching equipment, Scitex, stated in its 1983 Annual Report, "Publications produced on Scitex's systems range from leading magazines and journals to high-quality fashion cata-

Two things not apparent in this promotional demonstration for Pacific Lithographic: First, this set is one photograph, not two in sequence; and second, the magic is not a disappearing show, but a reappearing act. The camera's film captured the intricate grain of the scene: four hikers against distant mountains. It was then digitized. Clicking on the cloning option on the Chromacom machine, two cursors appear in the picture about an inch apart. The operator can vary that distance, and slide the duo anywhere on the photograph. One cursor will copy the color of the point it rests on over to the nearby cursor. Waving the cursor copies a patch of color. Identical in color and brightness, the texture of an adjacent area is replicated point by point in a new spot. Distinctive patterns are copied exactly. Thus the people standing in the picture were not beamed out of the scene; rather they were washed over with sky and mountain paint, stolen nearby. Closing the distance between cursors results in ever-finer degrees of seamlessness. Done with skill (it is almost a routine operation; the main thing to watch for is incestuously cloning what has already been cloned once), the phoniness is completely convincing.

logs, the annual reports of Fortune 500 companies, national ad campaign materials, and glossy promotional brochures. Scitex systems are found in almost every country in the industrialized world."

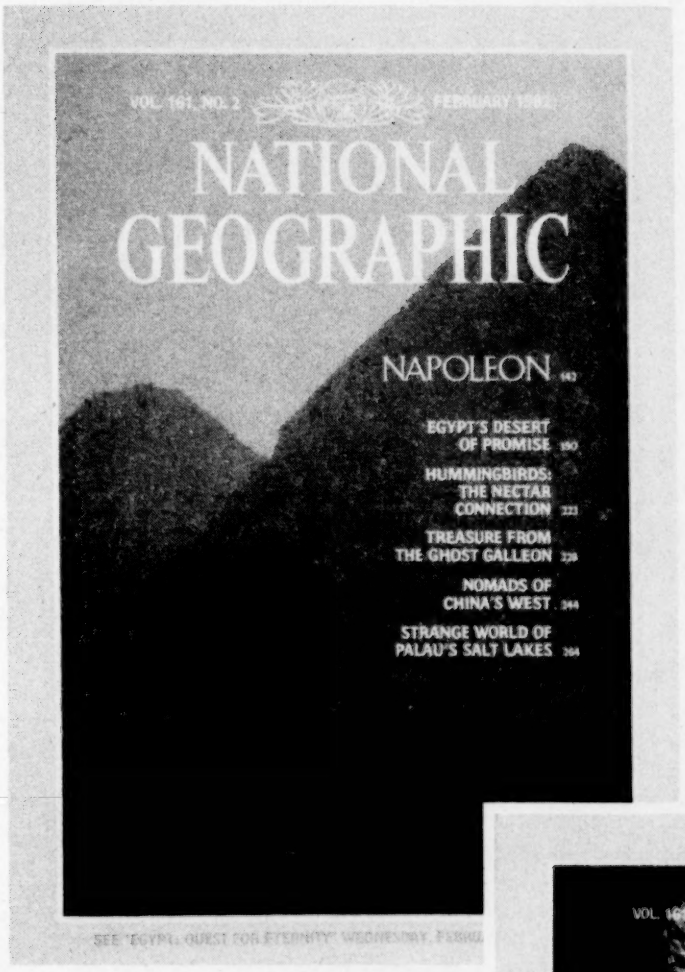
Nothing particularly sinister or ill-intentioned is going on here. Publications are using Scitex-type technology for a lot of unquestioned benefits — more rapid and exact page layout, for example, and higher-quality photo reproduction, and rapid transmitting of entire issues of graphics and text to simultaneous remote printers, greatly shortening the lead time to print of *Time* and *USA Today*, among others. The problem arises in the day-to-day detailed temptation to "improve" the images.

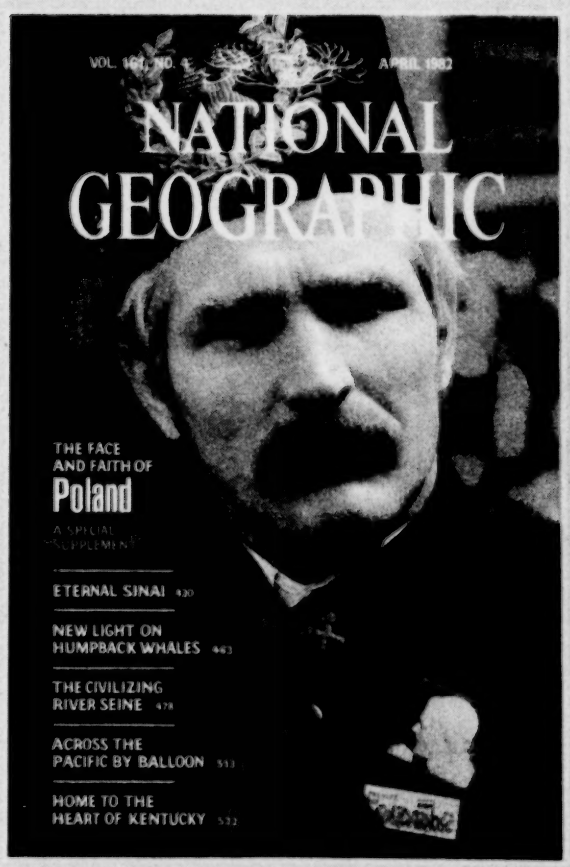
"Kick up that blue a little more."
"Let's see the whole thing with more contrast. More still. Can you mute the sky a bit?"
"Uh-oh, brown eyes, blue blouse. Try the blouse in green. No, darker."
"Can we get rid of that Pepsi can? Thank you."
"It's great except for that guy with the weird look behind them. Could he go away please?"
"You don't like that guy, how about this guy instead?"

It's yet another case of a new technical capability forcing the re-sorting out of a set of moral and ethical choices. Nuclear technology forced new decisions about what's right and wrong in war and energy. Medical technology is forcing new decisions about what's right and wrong in birth and death and parenthood. Digital retouching, though not yet a very public issue, is in the thick of how we will think about communication and "truth" and editorial responsibility — the broadcast fabric of civilization.

KEVIN KELLY: Why did we believe photographs for so long? The computer folk discovered early on that manipulating words is no work at all compared to manipulating pictures. The Confucian proverb "a picture is worth ten thousand words" is off by eight hundredfold when it comes to a photograph — one 8x10 photo will occupy the computer memory space of eight million words.

Most other media have broken our trust in their honesty long ago because in their shallowness they are easily bought off. They are, compared to photographs, skinny in the only flesh they have — information.





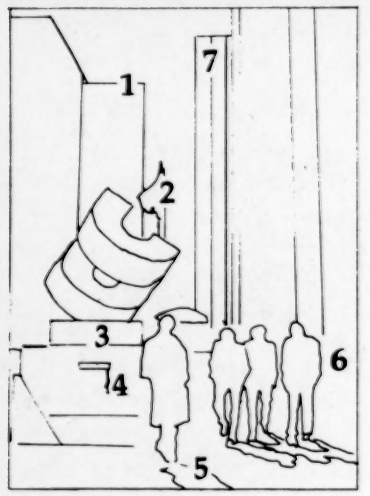
Two somewhat notorious covers, from February and April 1982. In both cases the requirements of strict cover format tempted the National Geographic editors to electronically tamper with the photographic images so that they would fit. (Left) The Giza pyramid was moved sideways a bit so it would appear within the frame of the cover. (Below) The top of the Polish gentleman's hat was added from another slide, about one cover-inch's worth. There's no visible trace of the Scitexing in either case.

We haven't even realized that we don't believe them anymore. Galloping right behind every advance of sound recording were sound creators, fabricating new sounds that sounded real, or reconstructing familiar sounds when the real ones weren't handy. We who so politely listen to the electronic telephone operator repeat the area code shouldn't fake surprise when later the same circuits put authentic-sounding words into our mouths.

The remarkable thing about photography is that it was so far ahead of its time. The basic chemical process has been the same since shortly after the first photographs were devised over one hundred years ago. Yet today, computers and all, there's still no other technique that can store as much information in as compact a form as photography. It's taken a gang of brute-minded computers to torture its integrity until finally it too cracked.

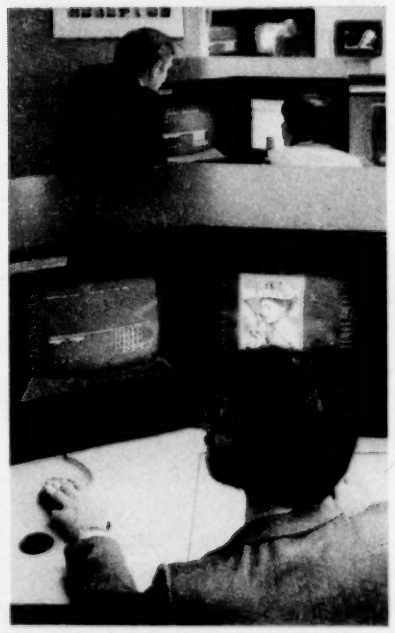
We've been spoiled by a hundred years of reliable photography as a place to put faith, but that century was an anomaly. Before then, and after now, we have to trust in other ways. What the magazines who routinely use these creative retouching machines say is "Trust us." That's correct. You can't trust the medium; you can only trust the source, the people. It's the same with text, after all. You can print a lie in 100,000 subscriptions and it looks the same in ink as the truth. The only way to tell is by the source being trustworthy. The only way my words are evidence is if I don't lie, even though it's so, so easy to do.

I talked with Jerrad Lelievre, chief of operations for *Time* magazine. He told me that they do not perceive the Scitex machine as raising any new



Altogether seven changes were made: 1) several floors removed from building; 2) flags and flag poles vanished; 3) Time & Life transposed; 4) dangling plug with extension cord removed; 5) shadow of man eradicated; 6) additional businessman cloned; and 7) architectural vertical grid in building removed.

The company newsletter for Time magazine, "fyi," demonstrated the abilities of their new Scitex machine with this pair of photographs. On the left is the street scene on 52nd Street, New York City, outside the Time/Life headquarters. On the right, its altered clone. "By electronically moving a cursor across the screen, [Time's] technician initially makes changes that are barely noticeable. He shaves a few stories off the top of a building. He transposes the name on the base of the sculpture in front of the Time & Life Building and then alters several other details in the image — without ever touching the original photograph. . . . Such tricks to show off the system's capability would never, of course, be used to doctor a photograph in a Time Inc. magazine."



Installed chiefly for page makeup and reception of satellite-transmitted photography, Time's VISTA System occupies the basement of the Time & Life Building. Among other apparatus, the system includes a Crosfield laser scanner and a Scitex.

issues. He said *Time* pays a lot of money for the best photographers to get the best photographs that don't need altering. He said categorically that "Time does not mess with or doctor photographs. We don't retouch photographs. If [new Soviet Premier] Gorbachev has a birthmark on his head, we aren't going to remove it. The machine is used only for color enhancement — that is, to make sure the printed colors match the original colors of the photograph, and to assist in cropping." I asked about black-and-white photographs that have appeared in *Time* which used an added gray tint in the background to spotlight a figure in the foreground. "That's normal contrast enhancement — where we may use white paint over the background to make something pop out." Do you do that with color? "No. The only thing we may do is to enhance colors to match the original. For instance, we may use it on flesh portions of a picture to make sure the flesh tones look correct. Actually the Scitex machine is great for drastic modifications, moving stuff around, but for color enhancements the old way of doing it, dot-etching [where the halftone dots on the photographic plates are selectively etched with acid to alter the color slightly in a specific area, a standard printing pratice], is easier, and I personally think gives better quality."

Does *Time* have written guidelines spelling everything out? No, just standing policy from higher-ups. Lelievre was aware of no discussions with other magazines about this topic.

I talked with Loren Carpenter, who works on synthetic photography and film at Lucasfilm. He was acutely aware of the implications of this technology. Six years ago he saw a machine at MIT that the hackers used to alter photos off the AP wire service. He says, "You can throw out photographs as evidence."

I asked about computers being able to detect computer alterations. He said that the one possiblity he was aware of (not that anyone was doing it) is to examine the background noise of different sections of the photo and fingerprint that against the section in question. If it was added to or altered significantly, it would not match the rest of the picture. But "don't trust a photograph if anything rides on it."

This new technology has the potential of undermining our faith in photography as a reflection of reality.

— Edward Klein, editor, New York Times Magazine; quoted in *Folio*, March 1985.

What I am learning from this Scitex machine is that "sure evidence" is a luxury. The same engineers who built computer retouchers will eventually make machines that will sniff a photograph and say how real it is. Few of us would have one of those, so photographs will be advertised to the masses as "unaltered, unretouched, unenhanced," much like the industry that offers unpasteurized, unpreserved, organic apple juice. With no

way to prove it, a few privileged publications will convince their readers that they serve only "organic" photographs. It'll be a matter of faith. To know for sure will never again be as easy as looking.

STEWART BRAND: My discussion was with Jan Adkins, Associate Art Director of *National Geographic*. It turned out they're in the midst of considerable debate on this very subject, Jan on the side of NO messing with the content of photographs — "It's wonderful for advertising, but it's the death of great photography." However, he sees as "well within the editorial purview" such things as adjusting the contrast in a photo, or dampening glare, or adjusting warmth and coolness — all effects that have been going on for years in the choice of film and the making of prints. "No film is honest." Cropping — what you leave out of the picture entirely — is the most ubiquitous of censors, and no one complains or expects otherwise.

I asked about the rumor that one *National Geographic* cover had a whole inch of image added. "It wasn't exactly added; it was moved from one slide onto another with the Scitex. We did move a pyramid once, and it was reported in the *New York Times*. I'll send you a copy of a letter that Bill Garrett, our Editor-in-Chief, wrote to a reader who complained."

Mr. Garrett's letter (February 15, 1985) said in part: "We moved one pyramid enough to fit the picture into the frame of the cover — and did this only because we could not crop the cover. Had it been inside there would have been no need to do it. The effect was the same as if the photographer had moved over a few feet. More important — or as important — how much did the use of a telephoto lens move the pyramids? How much did the color change because of a filter? Were the camels there naturally or were they brought there for the picture . . .?

"The *New York Times* could have mentioned that one of the most blatant bits of dishonesty in recent years was done by them. They took a picture of our president, Gilbert Grosvenor, standing behind a model of our new building, smiling as he pointed to one of its features. What they published was an engraving with the building neatly removed and a profit-and-loss chart in its place showing Mr. Grosvenor pointing to those figures.

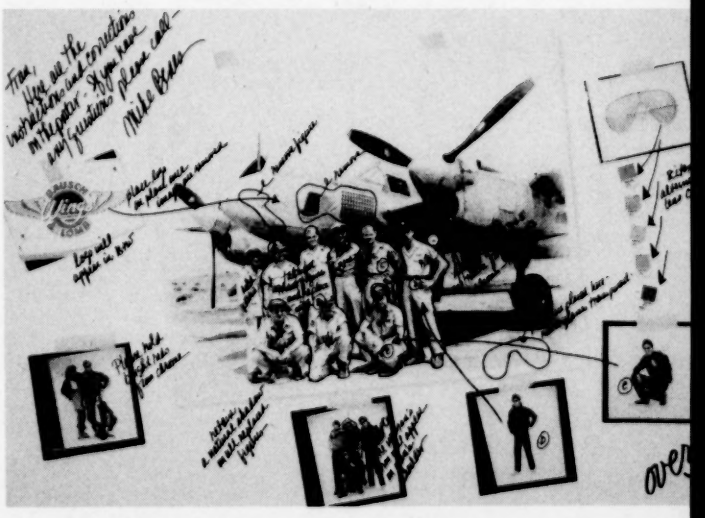
These two famous athletes didn't really meet back to back. To convey the competition between tennis champions Bjorn Borg and John McEnroe, World Tennis magazine arranged to portray them in an eighteenth-century duel on the magazine's March 1981 cover. Susan B. Adams, explaining on the editor's page of that issue how the cover was shot, said, "Finding a simultaneous hour in the hectic lives of the world's best tennis players . . . proved the most frustrating detail. As it turned out, we failed. With deadlines staring us bleakly in the face, we'd have to put them together photographically." The two cooperating tennis pros were photographed in separate places, three days apart. The editors relied on image manipulation to impart the sense of intimate rivalry.

"Be assured that nothing about the cover was dishonest nor are any other pictures in the *Geographic* altered to make them dishonest either by the photographers, the labs, the editors or the printers. Thank you for your concern."

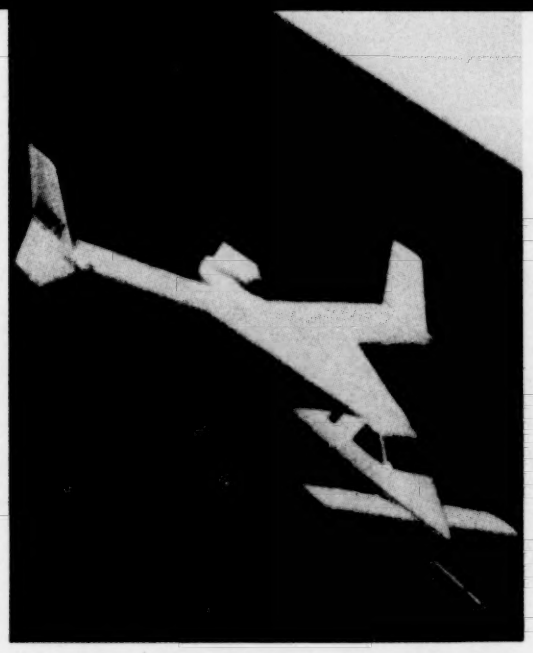
I confess I am not assured. In a magazine which makes its livelihood printing photographs which are amazing but true, the photos have to be perceived as infallibly true in order to be amazing. Any erosion of the one demolishes the other. The advice to photographers from the *Geographic* is: "*f*/8 and be there." (The standard middle aperture setting on cameras is *f*/8.) If content in photos can be electronically and subliminally added and removed, why bother to "be there"?

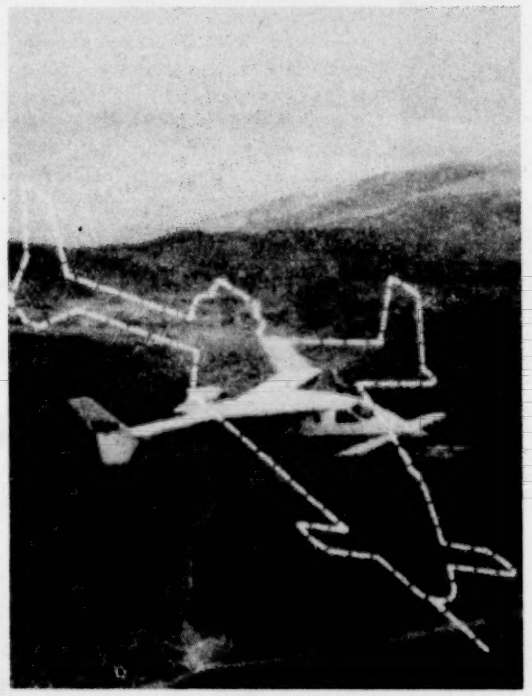
I'll bet that within a year growing public knowledge of digital retouching technology forces the *National Geographic* to make a public statement in the magazine that it will not electronically edit the content of its photographs. And then it will have to rigorously enforce that or lose the century of trust it's built up, the most envied reader loyalty in the magazine business.

Kevin's right. It's going to be an interesting truth-in-labeling problem. When magazines and books assert



It's advertising that has paid for computer digitizing machines. Color catalogs use them all the time to alter a product's color, enhance its shininess, tone down its shininess, remove blemishes. Art directors use them to accomplish what photographers couldn't or didn't do. And, according to the operator of the Chromacom who did our cover photograph, and who has sat through more than one quarrel, ad agencies use the imaging computers as arenas for battling out their visual fantasies. Bausch & Lomb Sunglasses used the Scitex to insert models into an old WWII photo and to alter a few other details to their liking.





The WHAT'S NEW magazine
Popular Science
Continent-hopping canard
NASA winglets, pusher turboprop, delta design give 6-passenger craft super range, economy
Electromagnetic pollution are they zapping you?

Unable to rephotograph an innovative plane because it was partially disassembled for modifications, Popular Science juggled two existing shots on the Scitex until they fiddled out one they liked. The preferred photo of the plane zooming in at a right angle had a fatally dark background (top). The one with the ideal background (center) had a staid, ho-hum portrait of the plane. So the magazine digitally superimposed the better of the planes onto the better of the backgrounds. But that left the nose and rear right wing of the poorer plane image sticking out. Turning loose the cloning mode of the Scitex the aerial landscape was painted over for the final cover shot (bottom), dated December 1983.

"We don't cheat," people will take that as news that they might.

Once you start looking for problems, they're everywhere. The low-resolution images of broadcast TV are routinely fiddled with. One of the networks is pushing for wider TV screens eventually, so on their studio-to-studio interviews, they show a wider TV screen being talked to in the studio. It's not quite real. The part with the talking head is real, but the rest — usually curtains or other innocuous background — is "cloned" in, because they don't really have wide TV images yet. Your cheery weather person, gesturing at maps and satellite photos, in real life is gesturing at a blank wall; the map is added electronically. Your on-the-scene reporter may be holding a mike which is disappeared along with hand and arm, live, at the station.

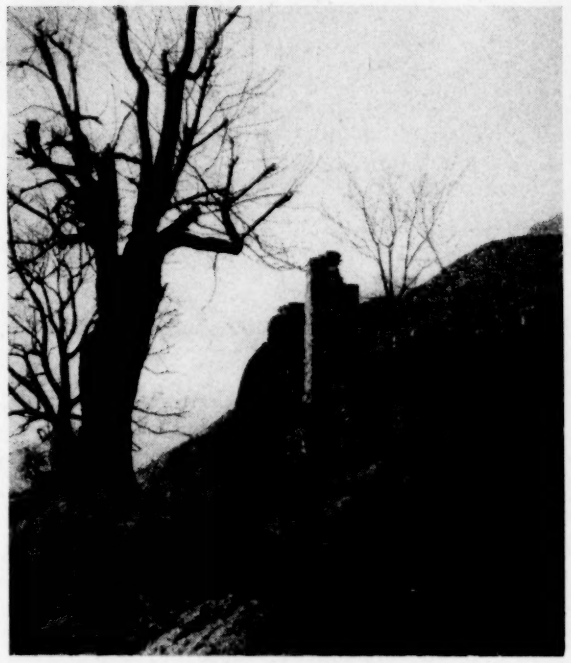
Healthy paranoia immediately wonders: what political images are being fiddled? How, why, by whom, and how would we know? And how would we know if it got drastically worse?

I had the pleasure of dinner with a high state (not California) official recently, one with national aspirations. He graciously asked how *Whole Earth Review* was doing, and we got talking about this article. I said we could publish as compromising a photo of him as could be imagined. "Like hugging Yassar Arafat or something?" he asked. "Sir," I said, "we could put your tongue in his ear."

But you don't need digital retouching to do that. You can do it with airbrushing, or with posed actors, or with a whole palette of darkroom tricks. It's just that the computer technology makes it so much easier.

And how much is too much paranoia? Should we outlaw toupees and cosmetic surgery in public officials?

What's unique, what was unique, about a photograph is that it is an analog representation of reality. It is a directly true transform of the original complex, awkward view of things. Every detail is in there, like it or not. The commonest, and to me profoundest, technique of digital retouching is "cloning" — taking part of an image and erasing another part with it. You're adding redundancy to the picture, reducing its total information, and introducing disinformation.



Equipment for digital retouching is bulky, pampered, and costs hundreds of dollars an hour to run. It lives far from the editor's desk at the moment. You might find it in large printing plants. This photograph by Constantine Diakos was published in the New York Times Magazine on April 3, 1983. A gap in the hillside in the original picture was electronically filled in with shrubbery by an aesthetically-inclined printing technician, unhampered by the editorial ethics of the New York Times. He did a good job. The Times claims it didn't notice the alteration until later.

The technique is digital — the vast leverage of using information in discrete bits, as falsifiable as written words. (Gregory Bateson once pointed out that writing introduced a level of dishonesty impossible when people's faces and voices and bodies and relationships were attached to their words. "Context-free" information is different information.)

I prefer an analog watch (the kind with hands) because it gives me a glance truth instead of the excessive detail of a digital watch, which asserts the time is 10:22:56, when I know it probably isn't and I wouldn't care if it was. "High tech, high touch," said John Naisbett. There's an analog rebellion shaping up to match all this digital power. There's also another round in the centralization/decentralization battle coming . . .

JAY KINNEY: With highly graphic personal computers such as the Macintosh comes a blurring of the boundaries between art, reproduced images, and life. Up to now photos have had special authority as arbiters

Huntington Bancshares is a Columbus, Ohio-based bank holding company. Banks are largely dependent on image. To boost theirs, Huntington featured the Columbus skyline in a four-page color foldout inside the bank's 1984 annual report. The skyline, not surprisingly, is dominated by the 37-story glass-and-stone Huntington Center. Their competitor's (Bank One) building is also prominent, a little too much so for such a glorious annual report. So Huntington officials used a computer to remove the 13-foot-tall letters that spell "Bank One" atop the building. Gone. While they were at it they decided that the parking lot next to the Huntington Center might be "in a better light" as a grassy green lot. Done. None of this, of course, was mentioned in the report.

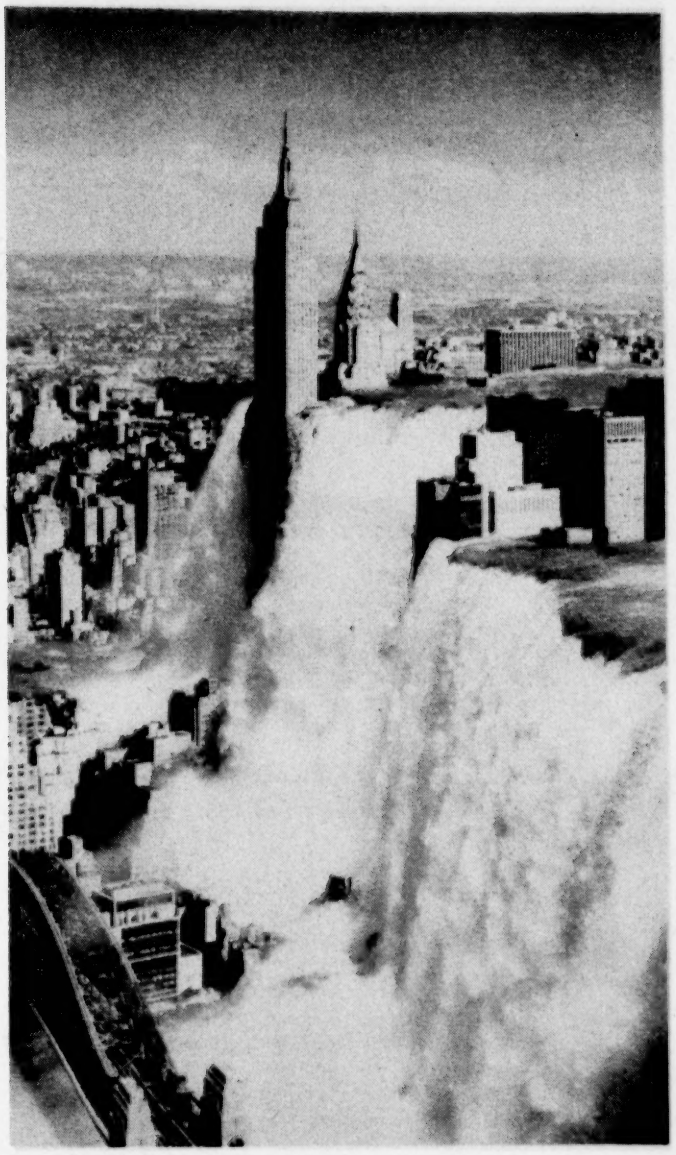
of the "real" — though any professional photographer knows that the hidden manipulations of the darkroom (masking, double exposures, retouching, etc.) have always made that reality more malleable than many people realize. This illusion of reality carried over into film. That is now breaking down with the era of special effects and video manipulation. MTV rock videos flaunt their deft artifice, while the computer-generated TV commercials' use of perspective grids and zooming logos and cars are so commonplace that they've become cliches. More than ever before, television and movies have become magic theaters where all is illusion and nothing can be wholly believed.

Computers like the Macintosh are in the process of shifting these confusions of art and artifice, reality and illusion, into our own hands. Surprisingly inexpensive digitizing software and hardware have recently become available for home use (see p. 41), adding techniques of image manipulation to the personal computer owner's graphics palette.

Conclusion: As our methods of recording reality become increasingly digitized, the sheer power in our hands may force us to reconsider our values — and, in fact, our very notion of consensus reality. With luck we'll emerge from the challenge favoring quality over quantity, originality over derivation.

Just as likely, however, is the possibility that this increasing slipperiness and elusiveness of truth will encourage an exhaustion where attempts to distinguish between reality and image are abandoned. In this situation — which most resembles a psy-war battle between competing propagandists — those with the most powerful transmitters, aided by repetition, are likely to come out on top.

"Every medium creates a primary illusion, as Suzanne Langer clearly suggested in her seminal publication Feeling and Form *(1953). The novel creates an illusion of memory; music creates the illusion of passing time; drama creates the illusion of history. She implies that photography creates the primary illusion of fact."* —Richard Misrach, *Aperture, Spring 1985* ►



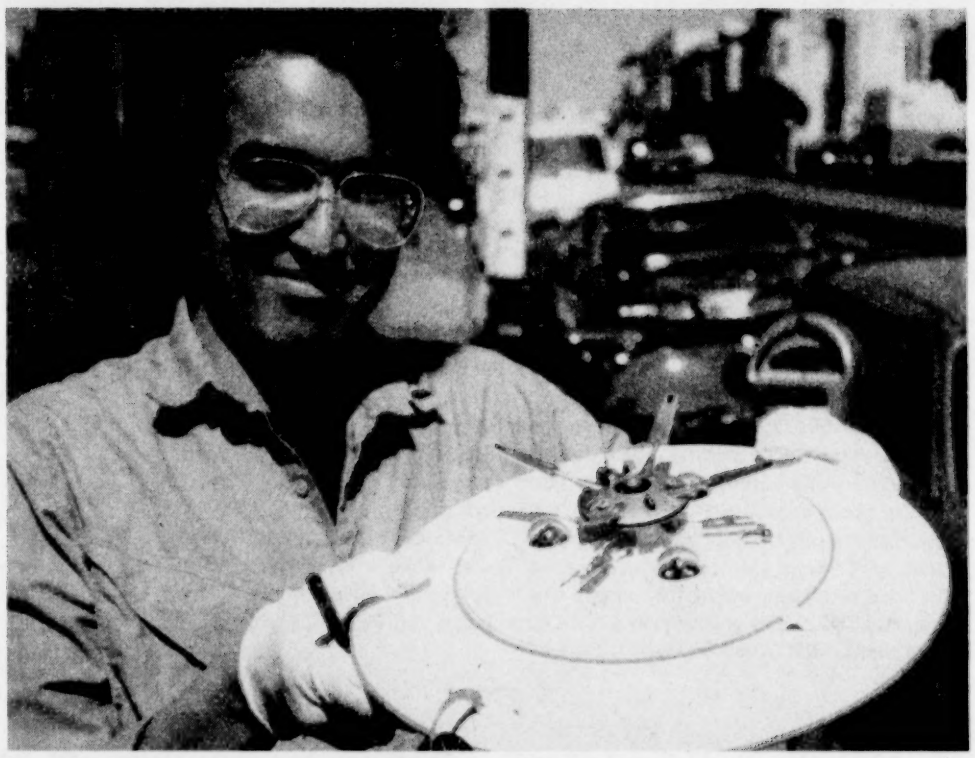
For years retouching photographs has meant airbrushing. Few photographs used for advertising or publicity made it to the printed page without passing under the miniature nozzle of an artist's airbrush. Girlie photo magazines became synonymous with airbrushed retouching. In the hands of a maestro the illusion is faultless. An anonymous airbrusher moved a thundering, misting Niagara Falls into downtown Manhattan, New York, by combining two photographs with virtuoso retouching skill.

This is a total fake. This particular can of Comet was never photographed. It was never in a studio. It never existed. Taking digital retouching to the extreme, Alan Green and C. Robert Hoffman III, two animators for Digital Effects in New York City, added tinselly gleams and reflections to a computer-generated image fabricated from equations. Retouching a phantom, starting from nothing.

FLYING SAUCERS IN SAN FRANCISCO

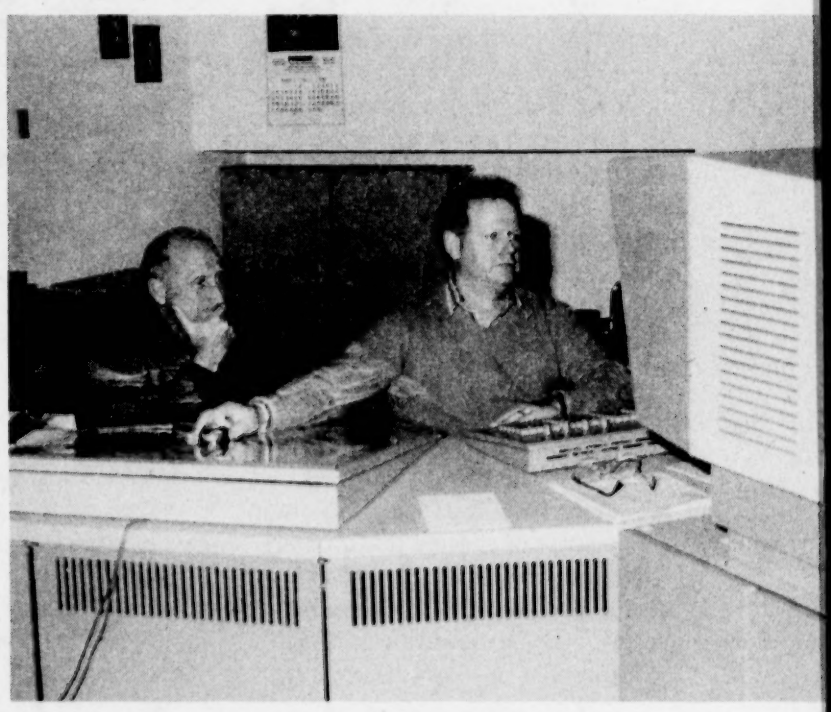
STEWART BRAND: It was the illicit thrill of a photographer's lifetime. My right hand grasped the digitizer — a mouse-like device — pressed its yellow button, and slid it. On the high-resolution color computer screen the image of the middle-sized flying saucer slid up the photograph. I was aiming for a street light just outside City Lights Bookstore on San Francisco's Columbus Avenue. Ahh, the saucer slid in neatly between the light and the Transamerica Pyramid behind it.

"Up a little," advised Kevin Kelly. "Now down. That's it." I let up on the yellow key, and the saucer fixed in place as if it had always been there in frame 8a of the Kodachrome 64 slide. Of course, the guy who did all the work, Ron Hegarty, Chromacom operator at Pacific Lithographic in South San Francisco, had already dimmed the flying saucer a bit, adding a gauze of blue haze to match it to other structures at that distance in the photo. Now he zoomed

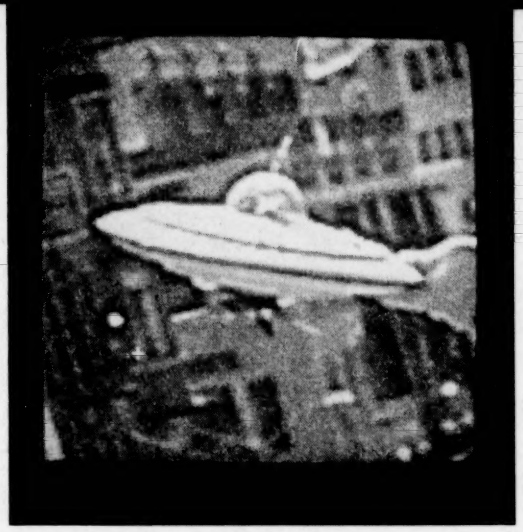


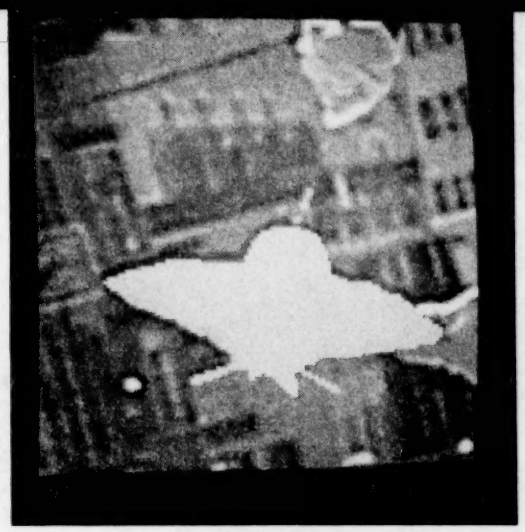
Identified Unflying Object, crafted in intricate detail by Paul Mavrides and Hal Robins, held with white gloves by Ted Schultz at the scene of the deception. If this photo were being computer-processed for reproduction, I would be tempted to remove that distracting pen in Ted's hand. But it would be wrong.

Laser-scanning the slides — one general view and three saucers — is Tim Watson at Pacific Lithographic in South San Francisco. The slides are angled so the saucers can be slipped onto the general view without having to be rotated. From this point on the photos are strictly digital information, no longer an analog of reality.



The dream machine at Pacific Litho, Ron Hegarty at the keyboard, me (Brand) in the no-shame put-it-a-little-higher advisory position. The $1,000,000-plus machine — viewer, computer, scanner, etc. — is a Chromacom, manufactured by Hell of West Germany. The major competition, Scitex, is made in Israel.





These two photos show the sequence of blowing up the smallest saucer and then masking it with great precision. Using the digitizer in his right hand while watching the screen, Ron carefully outlines the saucer, then paints in the outline with magenta. The saucer is now a discrete piece of information that can be dropped onto the general view. Any detail discrepancies can be tidied up once the saucer is in position. The building could be made slightly transparent and the saucer viewed through it if you like.

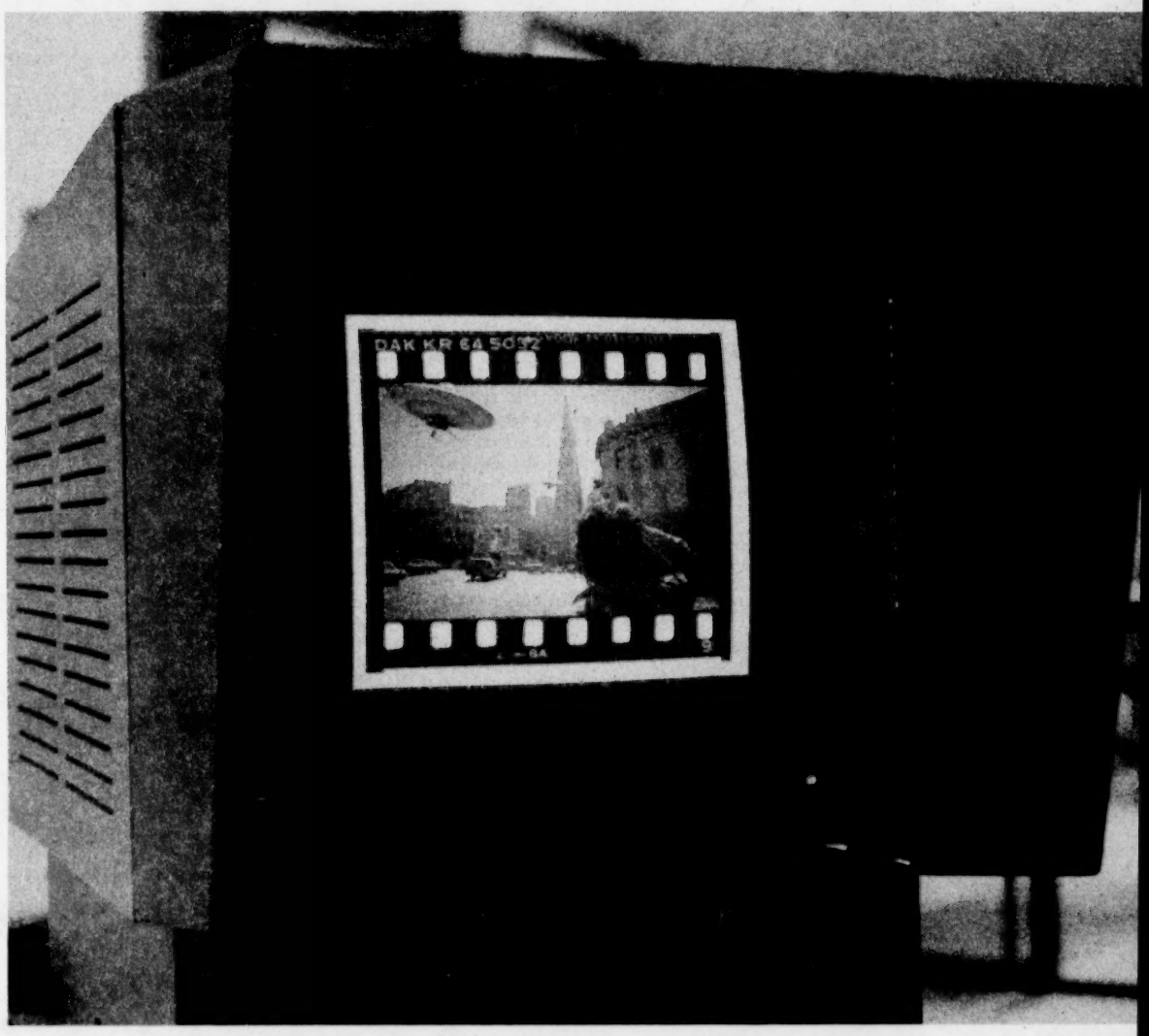
"Lies. All lies."

the saucer and its new photographic surroundings up to enormous size and set about deftly blurring the saucer's hard edges, blending the model into its "distant" context.

Then we did the same with the saucer peeking through the balcony, with more blue, more blur. "Let the doubters wonder how we trimmed out that blurry balcony with an Exacto knife," I gloated to myself. Electronically it was a breeze. Ron Hegarty had isolated the flying saucer from another photo by masking digitally instead of with a knife. It was all just data: total rubber. The pixels — picture elements — could be smaller than the grain in the film if we wished. Any piece of picture could be blown up to any size and then fiddled pixel by pixel, i.e., in microscopic detail. We weren't trimming out the saucer; it was microsurgery. He did the same with the tiny, fuzzy balcony, then we eased the one piece of data behind the other, and art became illusion. "Reality."

A lot of our retouching time was spent making the "real" parts — the sprocket edges of the film — look real enough. Two of the sprockets and the "8a" had been mangled by the slide-mounting process; they made the whole thing look dubious. So Ron replaced the torn sprockets with healthy ones and performed cosmetic surgery on the 8a. Then we came to matters of design convenience. The orange letters and numbers on the upper edge of the photo were black-on-an-orange-strip in the original — too garish. Ron reversed the colors. (The orange was still too bright to suit cover designer Kathleen O'Neill, so the color was toned down further in printing.)

Fakery upon fakery. The flying saucer is, in fact, made of dinnerware, three plates from thrift shops and a nice old piece of '50s Melmac. Also bits cannibalized from model kits — tanks, planes, motorcycles, ships, Japanese robots — and from a wristwatch and a refrigerator, as well as oddments from an architectural model supply store. The



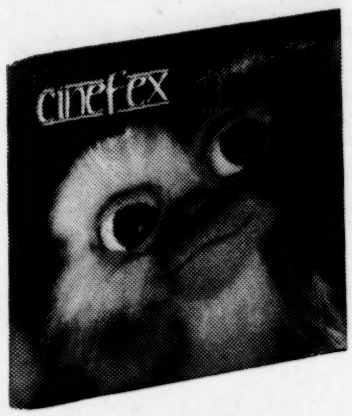
Our full image in the color viewer after the first saucer has been positioned but before it has been trimmed along the top of the frame. I almost left it in this way for more dramatic and contradictory effect.

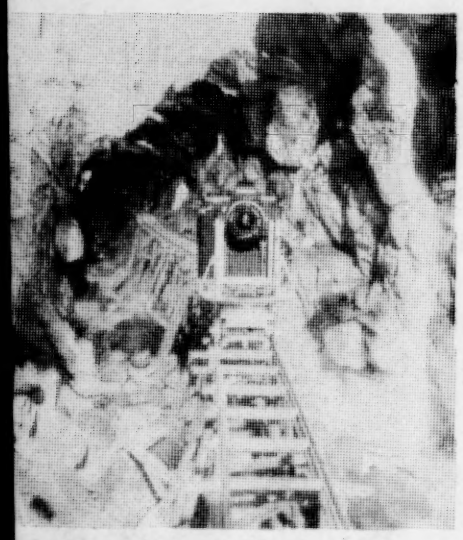
artists are Paul Mavrides, who draws "The Fabulous Furry Freak Brothers," and Hal Robins, another Rip Off Press cartoonist. They usually specialize in tiny replica dinosaurs (Hal) and grotesque doll and toy assemblages (Paul).

Photographing was the easiest part. Ted Schultz, Whole Earth's flying saucer specialist, stood at the corner of Columbus and Broadway gazing in astonishment at a placid Transamerica Building while I took a roll of tourist snapshots of the scene with my shirt-pocket Olympus. Then we stood Ted up in the back of a pickup nearby holding the saucer by a fishline and tilting it fetchingly while I took photos from various angles and distances. The saucer pictures were made with a Leica and a less wide-angle lens than the Olympus, to put the saucers more in telescopic (i.e. distant) perspective — that was my theory anyway; I don't know if it made any difference. Passers-by were amused. It only took half an hour.

The retouching at Pacific Lithographic took six hours. Two for the laser scanning by Tim Waters, the rest for the Chromacom retouching. The illusion would have been better if Kathleen could have been there instead of out with a cold. She's a painter. Painters have been faking distance and perspective and all that for centuries.

Cinefex
Don Shay, Editor
$15/year
(4 issues) from:
Cinefex
P. O. Box 20027
Riverside, CA 92516





[Above] For maximum control, "Dream Quest" dismissed the possibility of using actual cloud footage in favor of creating their own on stage. Experimentation led to the employment of polyester fiber fill glued onto pieces of plexiglass. . . . An inverted camera and snorkel lens were used to obtain cloud imagery that appeared to be whizzing by on either side of the thermopod cockpit. Here, [matte artist Rocco] Gioffre makes minor adjustments to the simulated cloud formations.

[Left] One of the more ingenious innovations in the film "Temple of Doom" was the employment of a modified Nikon — only slightly larger than a standard 35mm still camera — to photograph the mine car chase. Without the Nikon, the miniature cave sets would have had to have been twice as large, just to accommodate ILM's smallest VistaVision camera. Mounted on a specially designed car, the camera had full pan and tilt capability.

Cinefex

TED SCHULTZ: Alongside the booming field of film special effects, there's a booming journalism telling us "how they did it." None of the wimpy fanzine competition can hold a candle to the journal ***Cinefex****. Each issue consists of two long articles, each the meticulous, thorough, four-color story of the technical side of the razzle-dazzle of a recent film.*

KEVIN KELLY: Old magic was done with smoke and mirrors; this new kind is done entirely with models and computers. To create the lie on our cover this issue we used the same props: a one-foot plastic model and a one-million-dollar computer. The little fibbing we did is full-time work for a maturing band of wizards whose photography is the beginning of evidence for the unreal. As this spellbinding magazine reveals, the art of these sorcerers behind the scenes is as mesmerizing and entertaining as the show up front, and sometimes more.

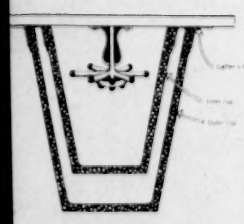
•

Not all of the shots [in *Gremlins*] featured real chainsaw blades. When the gremlin Stripe is on the floor being pulled toward a baseboard by the action of the saw — a radio-controlled puppet, with the saw being pulled off-screen by a wire — the blades had been previously ground down flat. . . . "And we pulled that bird-chirping sound from the Warner Brothers sound effects library for the shot of Stripe hitting and shaking his head," said [director Joe] Dante. "That's probably one of the most blatantly cartoonish noises in the entire show. Steven kept saying, 'I don't know, don't you think that's a little much?' And I'd say: 'Oh, come on. I mean, the picture's almost over.'"

The Video Production Guide

FABRICE FLORIN: If you're serious about getting involved in the technical side of video production, here is the most up-to-date and comprehensive introduction to the field from the people who brought you the more consumer-oriented ***Video Guide*** *(**NWEC** p. 492). This thorough overview of the production process gets down to the nuts and bolts of planning, shooting, and editing a videotape or television program. The book outlines most of what you need to know about video, from how professional equipment works to how to get a job. A definitive textbook of the video craft.*

•



Sprinkler protection.

Many sprinkler systems are designed in such a way that if one sprinkler goes off, the drop in water pressure sets off all the sprinklers in the system. The best protection against such a catastrophe is to exercise extreme care in placing lights, and to stay away from sprinklers. If you must place a light near a sprinkler, then cover the sprinkler with two styrofoam coffee cups taped to the ceiling, a small one inside a large one. Styrofoam is an excellent insulator, and the double-cup system provides excellent protection. Make certain also that the outside cup is flush against the ceiling so that heat doesn't enter despite your precautions.

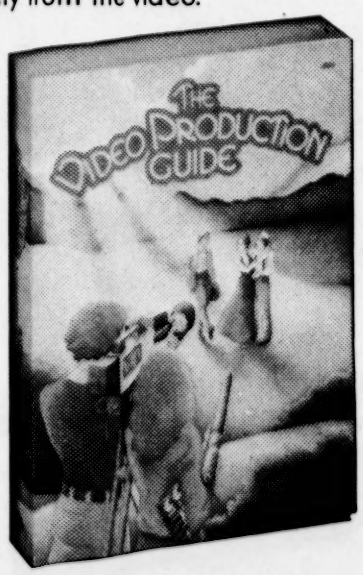
•

Another matter of importance is LIGHTING CONTINUITY. Just as continuity of action and camera perspective are crucial, so is lighting. The lighting director must understand the scene and design lighting that is optimal to create the desired dramatic effect for each camera angle. When these shots are cut together they should appear to have the same lighting throughout the entire scene. This is not an easy job.

•

Shoot some UTILITY FOOTAGE, even though it may not be called for in the script. Utility footage would include some establishing shots, some ART SHOTS, such as out-of-focus footage that might later be used as a background for titles, and any other material that might be handy. By all means, also record some ambient sound at each location. This can be done while shooting a cover or establishing shot and may be a life-saver if it's necessary to edit the audio separately from the video.

The Video Production Guide
Lon McQuillin
1983; 382 pp.
$30.95
postpaid from:
Howard W. Sams
& Company
4300 West 62nd Street
Indianapolis, IN 46268
or Whole Earth Access



GOOD MOVIES

by Sheila Benson

GEORGE STEVENS: A FILMMAKER'S JOURNEY

If the world seems a little low on great examples — and the film world certainly does, chronically and currently — there could be no greater antidote than **GEORGE STEVENS: A FILMMAKER'S JOURNEY**. It is an outpouring of riches, not only in clips from the films he directed — everything from **The More the Merrier** or the Astaire-Rogers **Swingtime** to **A Place in the Sun**, **Giant**, or **Shane** — but in the deep and insightful interviews which dot the film.

This loving and skillful work by his only child, George Stevens Jr., portrays an honorable, thoughtful, principled man, not incidentally stubborn as a mule, who believed that the *ideas* in film were of untold worth, and who gave Americans lasting images of their country. You don't have to be a filmmaker to find this film inspiring; the artistry of the son has done justice to the ideals of his father.

★ ★ ★

The hilarious **LOST IN AMERICA** is so desperate and so awful a vision of the upwardly mobile upper-middlers in the country that you might hope Albert Brooks was making it all up — until you look around closely.

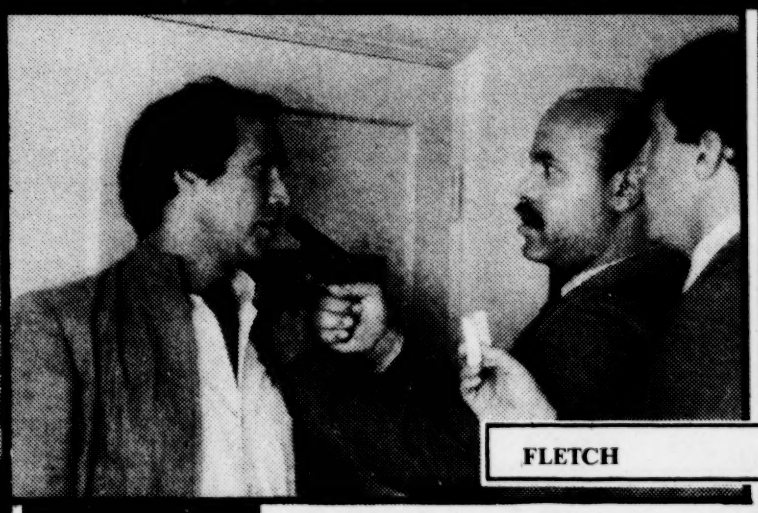
The idea of actor/writer/director Brooks and Julie Hagerty as 1980s-style "Easy Riders" is funny enough, but the vignettes with which Brooks fleshes out his odyssey are memorable: $100,000-a-year man Brooks reduced to a job as a school crossing guard; Brooks' confidence in his pitch to Las Vegas casino owner Garry Marshall to give him back his wife's losings as a great publicity stunt for the casino. It doesn't quite round out as well as it should, but what there is is terribly funny, when it doesn't cut too close to the bone.

★ ★ ★

THE HIT is one of those films that lingers. Not an unfamiliar plot, that of a gang member-turned-informer whose retribution finally arrives, but what British director Stephen Frears has made from it is very special.

It begins with the casting: Terence Stamp as the man who has had ten years in Spain to come to terms with his life, and John Hurt as the seedy professional come to pick him off, with Tim Roth as Hurt's manic punk assistant on his first job. For those who have not been able to forget Laura del Sol (Carlos Saura's dancer-**Carmen**), she's here too.

Since Stamp is smarter than both his captors, you might expect this to be merely a demonstration of how soon Stamp can break them down, but the film develops in oddly interesting ways beyond this. Very nice indeed.



FLETCH

★ ★ ★

The news that in **FLETCH** Chevy Chase is back, and that he is very nearly the old Chevy of "Saturday Night Live," is pleasant. It's also noteworthy that the film's talented director Michael Ritchie (**Smile**, **The Candidate**) is back from a batting slump (**The Island**, **The Survivors**).

Chase as a (for once) resourceful newspaperman, following all sorts of leads on a Los Angeles drug caper, is still slightly better than his material, but there is an easy, unforced air to the proceedings that lets you enjoy Chase's half-dozen or so schticks. (Must say, the movie's notion of how a great metropolitan daily operates is pretty funny: Chase's big Sunday-edition expose, fingering everyone in L.A. but Fernando Valenzuela, is touted in his paper's Thursday ads . . . and his editor doesn't have Chase's story yet — nor do the paper's lawyers. Ah, movies.) ■

LOST IN AMERICA

THE HIT

Utne Reader

STEWART BRAND: Handy idea, handy result. A magazine offering "The best of the alternative press" — a ***Readers' Digest*** *for New Age types. The press represented varies in its alternativity from* ***Esquire***, ***Savvy***, ***The Nation***, ***Harper's***, *and* ***New Age Journal*** *to* ***In These Times***, ***ChurchWorld***, ***The Progressive*** *(some good stuff, makes me want to check out the source publication),* ***The Guardian***, ***Whole Life Times***, *and* ***Dissent***. *(Those and more are in one issue.) There's full articles, edited articles, glosses, and magazine reviews by subject area (a bunch on renewable energy, a bunch on American Indians).*

All very well, but meaningless if the quality doesn't meet the idea. Is the writing good, the choice of subjects good? Do the editors have a nose for news and the diligence to keep it to the grindstone issue after issue? By and large I'd say yes. Any issue is bound to stop scanners and force them to read two to six times — that's better than ***Esquire*** *or* ***New Age Journal*** *are managing these days. If you're cutting back on your magazine exposure, probably a healthy practice in the excessively pop culture going on, the* ***Utne Reader*** *might be a good tool for tapering off.*

I'm told that publisher and editor Eric Utne is concerned that I might opine that his ***Reader*** *is a tad imitative of* ***CoEvolution Quarterly*** *and* ***Whole Earth Review***. *Why ever would I think that of a magazine which is perfect-bound, has color covers with black and white on cheesy paper inside, with few ads, that typically carries two pieces an issue previously published by Whole Earth, and that has theme issues such as "Religion and Politics" a year after we do? I think I can set his mind to rest by answering an editorial query in the April/May 1985* ***Reader*** *adjoining a piece titled "Adult Education for the 1980s." (Courses are listed such as "Guilt Without Sex," "Biofeedback and How to Stop It," "Bonsai Your Pet.") The editor asks, "This article appeared mysteriously under our door. Would the person or persons responsible please step forward to share in the credit or blame?"*

Answer: it comes from a college professor who chose anonymity to protect himself from the wrath of the Louisiana State Board of Education when he sent the piece to ***CoEvolution Quarterly***, *which published it in Summer 1982. Send us his payment, Eric, and we'll forward it to him.*

On the other hand, maybe we're the imitators. The ***Utne Reader*** *went from quarterly to bimonthly a couple months before we did.*

The Utne Reader
Eric Utne, Editor
$18/year
(6 issues) from:
The Utne Reader
P. O. Box 1974
Marion, OH 43305

•

American Indian Art Magazine (quarterly, $16/yr., 7314 E. Osborn Drive, Scottsdale, AZ 85251). This quarterly covers all forms of Indian from sculpture and painting to jewelry and textiles. Heavily illustrated with color photographs, it also announces gallery showings and auctions. Artists' profiles and book reviews round out the magazine's offerings.

•

Bonding

While the obstetrician is finishing up, the pediatrician will wrap your baby in a blanket and hand it to you so that you can marvel at the miracle of birth and everything. My only warning here is that you should not hold your baby too long, or you will become "bonded" to it and have to be tugged apart by burly hospital aides.

•

A woman interrupted Ivan Illich as he was giving the second of his three lectures at the University of Maine.

"You have been ruminating here for two days," the woman said. "Just exactly what is your point? What do you want us to take home from all this?"

Illich was not taken aback, but he hesitated a moment before he answered her.

"If I grow a tomato on my windowsill and eat it, the economist tells me that I have produced and consumed a tomato. He says: 'Look at what your time is worth. That tomato costs 50 times more than if you had bought it.' But I do not produce the tomato. . . .

"I grow the tomato because I like to grow and eat it, not because it is an economic product. The value cannot be measured in economic terms.

"I am trying to give you an alternative vision of what it means to be human so that you may act as little as possible as an agent of the money economy, the knowledge economy, the education economy. I am not producing any ideas you can take home."

—Daniel Behrman, *WorldPaper*

Das Leben hat seinen Ursprung im Wasser

Liebe

KEVIN KELLY: A magazine in German that somehow manages to combine the elements of ***Whole Earth Review***, ***New Age***, ***Playboy***, *the* ***National Enquirer***, *and* ***Weirdo Comics*** *into our nearest German doppelganger.*

Liebe *("Love") is published by Raymond Martin, a figure of anarchist fame and former re-printer of American underground comix in Germany. Topics in the first issue include a cover story on the AAO commune during their "expose yourself" therapy sessions, water-babies, LSD in the '80s, Andy Warhol and Truman Capote, a picture essay on "Punk & Zen," dialog with Carlos Castaneda, "How the Pyramids Were Made with Hydraulic Power," reflexology (foot acupuncture/massage), John Lilly, composting, and Donald Duck.*

Whew! It's all in 80-proof German with more bite than other magazines we see.

Liebe
Raymond Martin, Editor
$20/year (12 issues)
surface mail from:

Liebe
Volksverlag Linden
GmbH
D-8531 Linden
West Germany

Typesetting was never easier.....

MacPublisher

Rob Doyle. Version 1.25. Copy-protected. $100; Street price $78. Macintosh. Boston Software Publishers, Inc., 19 Ledge Hill Road, Boston, MA 02132; 617/327-5775.

ROBERT MORGAN: MACPUBLISHER is an example of one of the newest genre of software to come along. I call these programs "Lectronic Layout." And, once again, the Macintosh has inspired programmers to lift this type of application to new heights.

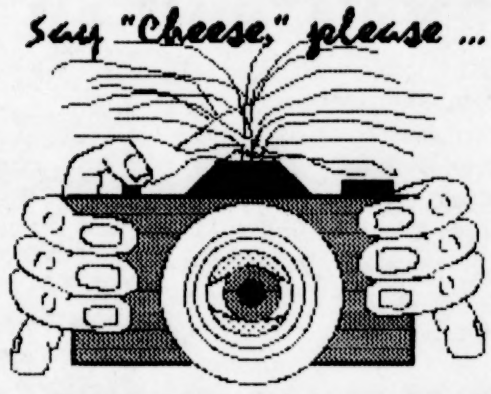
In addition to the normal 'Mac Graphic' tools of Cut-and-Paste, Scrapbook, Fonts, etc., MACPUBLISHER provides special tools like Scissors, Camera, and Ruler. These tools can be used to 'shoot', 'split', 'splice', measure, and lay out articles and pictures on a Dummy Page at the right of the screen. Each item is represented at 44% of true size with a labeled rectangle. The layout can be in Full Width, Two-column, Three-column, or Free Form. In each case except Free Form, a grid helps you line things up properly. Once you have arranged everything like you want it, you can get a "bird's eye" view of what the printout will look like by selecting the MiniPage, similar to ShowPage in MACPAINT.

MACWRITE and Microsoft WORD won't let you place pictures to the right or left of text. MACPUBLISHER will. Although Microsoft WORD lets you do two and three columns, you don't know what they look like until you print them out. MACPUBLISHER lets you see the columns and lets you drag them around any way you want.

..... What Would I Use It For? .....

..Overhead Transparency Masters
..Reports or Proposals
..Newsletters
..Brochures
..Resumes
..Office Forms
..Educational Materials
..Magazine Article Layouts

(Above is an example of overlaying text and graphics using the Free Form option on Layout.)



Like MACWRITE, MACPUBLISHER allows you to 'import' MACPAINT pictures. But unlike MACWRITE, the pictures can be 'pasted' beside text. This is true whether you are using Two-column, Three-column, or Free Form format. MACPUBLISHER has a Camera desktop accessory that lets you 'snap' only the part of the Clipboard you want. Although the pictures print lighter than the text, this is the fault of the Imagewriter Driver, not MACPUBLISHER.

Can't be that good! What's the catch?

1. The Full Justification option doesn't work on every line. It often leaves a space at the end of the line or stretches short lines out. (See section above for demonstration of this.)
2. There is not enough space between columns and there is no way to adjust this.
3. There is no way to rename an article without having to quit the program.
4. There is no way to switch newsletter files without having to quit the program.
5. Predefined column widths prevent the use of vertical divider lines or borders.
6. Duplicating a design on a page requires a new disk file to be created for each repetition.
7. There is no practical way to Bold or Underline or change the font of one word in a line outside of "fooling" it using overlays and the Free Form layout option. (See section below for example of this.)

The manual clearly states that if you want **to Bold a word, the whole line must be** Bolded. Likewise for Underlining, as well as **the changing of fonts and font size.** I decided to try 'fooling' MACPUBLISHER into overcoming this problem by selecting the Free Form option on the Layout Menu and overlaying two lines of text.
This is an attempt to **BOLD** one word.
(This is tricky because things are hard to line up. The same thing is true for underlining, and **font changes.....**)

THE JOY OF INTEGRATED WORD PROCESSING

by Charles Spezzano

Some integrated packages have terrific word processors, equal to leading stand-alone programs. Here, eight programs for the IBM PC and compatibles are compared.

SOME critics, taking their personal computing very seriously, argue that all integrated packages (which combine word processing, database, spreadsheet and, sometimes, telecommunication abilities) are collections of mediocre programs and urge users to buy the best word processor, spreadsheet, and data manager right from the start to avert later regrets. That may be true if you're as serious about your personal computing as those experts who, after spending half of each working day doing business on their PCs, write articles about them during the wee hours of the night. But what about a psychologist or an attorney who is buying a PC to write letters and reports, maintain a simple client database, and maybe spreadsheet office expenses? If an integrated package had a good — but not the best — word processor and threw in the file manager and spreadsheet without adding new sets of commands to memorize, all for $395 to $695, then why bother buying, learning, and trying to do-it-yourself-integrate over a thousand dollars' worth of unrelated programs?

I used to answer that question with: "Because integrated packages don't have good word processors." I was wrong. Some integrated packages have terrific word processors — the best ones hold their own with the leading stand-alone programs. The trick is finding the best in the fog of hype that surrounds this hot marketplace. It took three months, but I found it.

*It's not FRAMEWORK (**WESC** p. 110). FRAMEWORK is fast, easy, and flawed. It took about twenty minutes to master. The automatically reformatting editor is as sleek as MICROSOFT WORD. You can move forward and backward by word, sentence, and paragraph. As this happens, text is automatically highlighted and can be deleted, moved, or copied with a single keystroke. You can keep a stack of documents on the desktop where each can be opened in an instant, windowed for viewing with another file, or zoomed to cover the whole screen. Every subdirectory of files can be hierarchically and alphabetically displayed and quickly accessed. The menus and keyboard commands are so well related that you graduate from one to the other without even noticing. And there's a good outlining system for icing on the cake.*

FRAMEWORK is fast, easy, and flawed.

Unfortunately, FRAMEWORK suffers a glaring personality disorder. It handles the printed page with a total absence of the thoughtfulness with which it manages the PC's screen. When printing one page from a report, the program ignores even its own "print offset" left margin and pushes everything against the left edge of the paper. Studying the manual yielded no solution and a call to customer support ended with a "Hmm, that's an interesting problem."

Adding insult to injury, FRAMEWORK provides no way to view or control page breaks: no on-screen lines or markers, no widow or orphan prevention, no means of varying the number of lines on different pages unless you put each page in a separate frame, which is like serving each piece of lettuce from a tossed salad on its own plate. Even if you don't care about page breaks, the limits imposed by the framing system will regularly force you to split long reports into impractical small pieces.

*It's not SYMPHONY (**WESC** p. 111) either, although SYMPHONY's word processor has fewer design flaws than FRAMEWORK's despite the opposite characterization in most reviews comparing the two. The problem with SYMPHONY is that you are writing in a spreadsheet cell, and that's a less-than-ideal editing environment because of the rigid constraints that make spreadsheets so reliable. For example, in most cases it's necessary to set "Restrict Range" to a maximum number of lines for your document before writing. It's more natural and flexible to leave the length of a report or article open-ended, but failing to restrict the range creates the possibility that moving or deleting a block of text will affect a spreadsheet entered below your document window on the same worksheet.*

Beyond this I did not find much to complain about. SYMPHONY does not have all the bells and whistles offered by some of the other programs under scrutiny here, but what it does it does well. The two deviations from the ideal that struck me were minor. SYMPHONY does not always reformat text automatically. When you delete with the BACKSPACE key or indent, for example, you must use the F2 key to readjust

If I hadn't been seeking the ultimate, SYMPHONY might have done nicely.

ELECTRIC DESK is the Volkswagen of integrated word processors.

text. Also, print attributes like underlining do not show onscreen, but the affected text is bracketed by triangles which are the same for all attributes, so you cannot quickly tell if something is boldfaced or underlined. If I hadn't been seeking the ultimate, SYMPHONY might have done nicely.

ELECTRIC DESK is the Volkswagen of integrated word processors. It's small and simple with only 44 pages of the manual devoted to word processing. It's also the cheapest package on the integrated market at $395. The largest document you can write is 1000 lines or 32,000 characters (about 20 double-spaced pages), whichever comes first. Block moves are cut, then pasted, with no way to identify sentences or paragraphs except by marking them front and back. The same CTRL-T transpose command as ENABLE is offered, but that's the only frill, except for automatic reformatting.

AURA (**WESC** p. 111) and OPEN ACCESS (**WESC** p. 109) are not cheap, just slow and underpowered. ACCESS limits document size to 30K, which translates to a few pages smaller than ELECTRIC DESK's 20-page limit. The screen splits but text can move only in one direction and editing can take place on only one side. The separate delete mode increases both keystrokes and the chance of accidental erasures. There is no way to underline or boldface text already entered. You must delete it and retype it after selecting the special effect you want. Similarly, a special effect cannot be removed without removing the associated text. ACCESS's search and replace were noticeably slower than in the other programs, except for the equally sluggish AURA, which was also a turtle at storing and retrieving files from disk, reformatting modified text, and block moves. AURA also lacks such niceties as onscreen underlining and boldfacing, automatic reformatting, and printing only part of a document.

AURA was also a turtle at storing and retrieving files.

INTUIT (**WESC** p. 110) takes a completely different approach to word processing, offering a sophisticated text formatter with a very simple editor. Instead of onscreen formatting, INTUIT leaves almost all formatting operations for print time. This is clearly not the people's choice for word processing but it helps avoid messing up tables and columns when reformatting a report, and some users may like the sense of freedom from formatting decisions while they are writing. Paragraphs don't reformat after changes because it doesn't matter. The print-time formatter will adjust them. You don't underline a heading onscreen. You mark it as a chapter, section, paragraph, subparagraph, or list heading and then you fill out a table indicating whether those kinds of headings should be centered, underlined, or boldfaced when printed.

Not everything can wait till print time, however, and that's where INTUIT seems weak. Only characters and lines can be deleted. Only blocks marked at both ends can be moved; no shortcuts for moving sentences or paragraphs. Search or replace only work forward. No frills till print time. This is bare-bones editing at its barest.

So I moved on to the SMART WORD PROCESSOR (**WER** #44, p. 86). Vast improvement. Not a speed demon, but fast enough, and a well-rounded performer. New users start out with basic features on confidence level 1 and access commands from menus, and graduate to full-featured confidence level 3 with mnemonic keyboard commands.

The screen splits 32 times horizontally, vertically, or for footnotes.

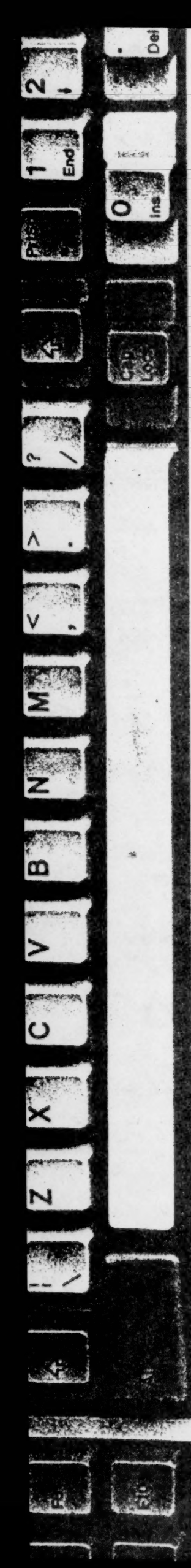
INTUIT is bare-bones editing at its barest.

Moving, copying, or deleting can be done by word, line, sentence, paragraph, or block. Anything deleted can be undeleted easily. Search and replace work forward and backward or globally from any place in the text. The macro-maker is a thing of beauty, allowing easy redefinition of almost any key on the keyboard including control and alternate key combinations. If you like fancy options, there's a sophisticated onscreen calculator and, for both screen display and output, ten existing fonts and two user-designed fonts to control the appearance of text.

On the negative side of the ledger, SMART is not so smart about subdirectories. You must leave the program to move from one to another. Also, the editing screen is shrunk to 19 lines by the ever-present menus. Finally, you can start printing at any page of a document but you must print to the end from there, unless you cancel printing after getting the one page you wanted, not easy to do with a buffered printer. And you can't print one file while editing another, a glaring flaw in a program vying for heavyweight status.

Despite those minor blemishes, there is only one program in this league that outshines SMART. That's ENABLE, one of the best pieces of software I have ever laid hands on. It is as fast or faster than the competition at most editing maneuvers, including searching and replacing, block moving and copying, scrolling, and reformatting. It offers the

SMART is not a speed demon, but fast enough.



What we are talking about here is a great word processor.

most features while remaining compact enough for floppy disk users and handling documents that overflow all the others except SMART.

In fact, it does some things I have never seen on any of my favorite stand-alone word processors. For one, it will import a pure ASCII file with those end-of-line carriage returns and line feeds that usually make reformatting and editing impossible, and it will instantly reformat the text within any margins you set and let you do all the editing you like. In hot competition for my favorite feature, however, is CTRL-T, which transposes the two characters to the left of the cursor, taking care of what is probably the most common typing error. Or maybe it's ENABLE's extended character, foreign language, and box drawing sets, or its ability to create a block from separated segments of text, or commands that move the cursor to 46 locations (yes, I counted those) including the beginning and end of the sentence or paragraph.

Most of those leaps begin with the F2 key, just as most other keyboard commands are executed through the F9 key in sequence with two or three mnemonically chosen letters. It's really a beautiful system, with the rest of the editing functions handled through the "Top Line Menu," invoked by pressing F10, or through one- and two-keystroke commands. And for hard disk users, every directory and subdirectory on every drive is accessible without leaving the program.

What we are talking about here is a great word processor. Not just "great for a module in an integrated program," but great in any league. Having nominated ENABLE as a leading contender for the best word processor available for the IBM PC, I have the right to get picky. The manual promises a "File Summary Screen" that will give me a word count on any document I have saved. Only a pale facsimile actually exists in the program, however, with the usual character count available from DOS. I really wanted that word counter. Also, the line counter stops at line 23 on every page because it is counting screen lines, not page lines. Despite that quirk, the "what you see is what will print" effect is as complete as any I have used, when the slightly slower "Final," rather than "Draft," form is selected as the editing mode. Even the top and bottom margins and the headers and footers for every page are displayed along with the page breaks.

Like every other word processor in this review, ENABLE offers no way to use a printer's ability to microjustify and proportionally space text, unless you can locate the appropriate decimal value codes for controlling those features in your printer's operating manual and then embed them in a Control command in the text. Unlike most, it allows you to turn the automatic reformatting on and off to avoid destroying tables. With the addition of tables of contents, footnotes, and indexes with subheadings, there is little that this program cannot do. The Mail Merge operation was as fast and efficient as those in any stand-alone package.

There is little that ENABLE cannot do.

ENABLE Version 1.1, released this spring, adds about 50 new features, including a spelling checker, proportional spacing, transfer of data to the database manager or spreadsheet, and multiple column editing. This program is already in a class by itself among the integrated word processors and those new features will definitely place it in the ranks of the top heavyweight contenders, integrated or not. ■

FRAMEWORK

Robert Carr. Version 1.1. Copy-protected. $695; street price $339. IBM PC/XT/AT/compatibles (384K). Requires 2 disk drives. Ashton-Tate, 10150 W. Jefferson Blvd., Culver City, CA 90230; 213/204-5570.

SYMPHONY

Version 1.0. Copy-protected. $695; street price $408. IBM PC family and compatibles (320K); DEC Rainbow (320K); Tandy 2000. Requires 2 disk drives. Lotus Development Corp., 55 Cambridge Pkwy., Cambridge, MA 02142; 617/577-8500.

ELECTRIC DESK

Electric Software. Version 1.04. Copy-protected. $345; street price $209. IBM PC/XT/AT/compatibles (256K), PCjr; TI Professional, TI Pro-Lite (256K). Alpha Software Corp., 30 "B" St., Burlington, MA 01803; 800/451-1018 (in MA: 800/462-2016).

OPEN ACCESS

Version 1.03. Not copy-protected. $695; street price $395. IBM PC/XT/AT/compatibles (256K); Tandy 2000; TI Professional; Wang PC; Apricot. Requires 2 disk drives, graphics card for color applications. Software Products International, 10240 Sorrento Valley Rd., San Diego, CA 92121; 619/450-1526.

AURA

Version 1.0. Copy-protected (can be transferred to hard disk or copied twice; protected after that). $595; street price $299. IBM PC/XT/AT/compatibles (256K). BPI Systems, Inc., 3001 Bee Cave Rd., Austin, TX 78746; 512/454-4677.

INTUIT

Martel Firing. Copy-protected. $90; street price $80. IBM PC/XT/AT/compatibles (256K); Tandy Models 1000 and 1200 (256K), Model 2000 (384K). 2 disk drives recommended. Nuomenon Corp., 512 Westline Dr., Alameda, CA 94501; 415/521-2145.

THE SMART SOFTWARE SYSTEM

Version 1.01. Copy-protected. SMART INTEGRATED SOFTWARE SYSTEM $895; street price $559. SMART WORD PROCESSOR $395; street price $270. SMART DATA MANAGER $495; street price $336. SMART SPREADSHEET $495; street price $336. IBM PC/XT/AT/compatibles (256K). Requires 2 disk drives. Innovative Software, Inc., 9300 West 110th St., Suite 380, Overland Park, KS 66210; 913/383-1089.

ENABLE

Version 1.01. Not copy-protected. $695; street price $459. IBM PC/XT/AT/compatibles (192K). Requires 2 disk drives. The Software Group, Northway Ten Executive Park, Ballston Lake, NY 12019; 800/932-0233 (in NY: 800/338-4646).

Enter data without typing . . .

Omni-Reader

WOODY LISWOOD: Omni-Reader is the poor man's microcomputer optical character reader (OCR). What is that? A machine that can read a typed page and turn it into data that can be used by a word-processing program. OCRs have been around for a long time, but this one is the first priced so low. And it works. No small feat.

The Omni-Reader can recognize four type fonts: Courier 10 and 12 (among the most common typefaces on an IBM Selectric typewriter), Pica and Prestige Elite. The company plans to add more type fonts soon.

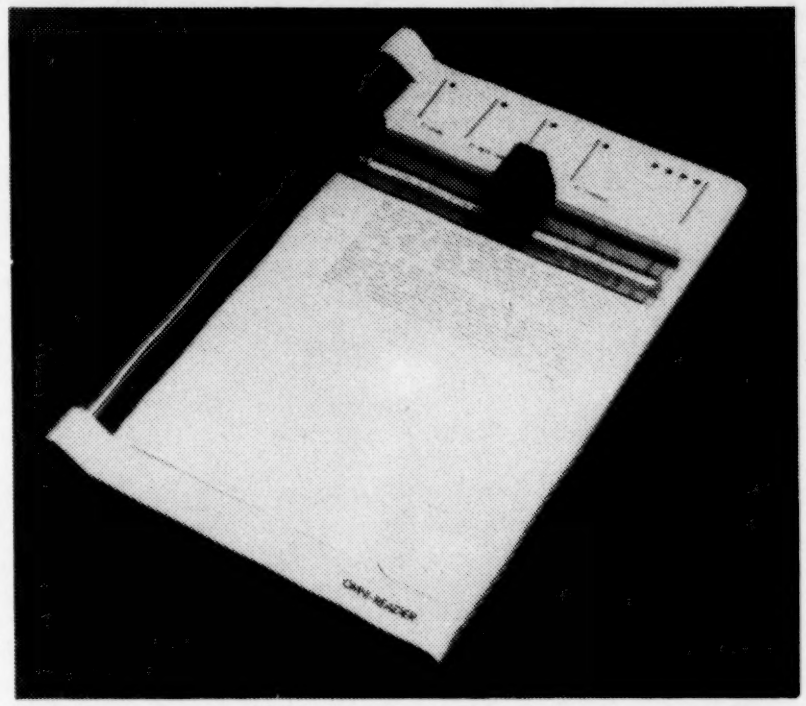
You plug the Omni-Reader directly into the serial port on your micro; you don't need any extra boards. Start up the Omni-Reader software, then run your application program. (I used WORDSTAR 2000.) Put the document you want moved into your computer into the Omni-Reader holder, line up the first line under the ruler, set the switches to the appropriate type fonts, press a button, and by hand run the optical reader over the line of text that shows through the ruler. If all goes well, the text appears on your computer's screen, just as if you had keyed it in.

I was able to read in 100 percent of the test material supplied with the Omni-Reader. With documents from my copy machine, it worked nearly as well — about 95 to 100 percent accuracy on each line. However, when I switched to Prestige Elite type on a light grey paper, I had less than 20 percent accuracy. I could have keyed in the material just as fast considering the corrections that had to be made.

If most of your text is in type fonts the Omni-Reader can recognize and if most of it is printed on pure white paper, you'll think this is a really neat machine. If the paper isn't white, test the machine before you buy.

Omni-Reader
$499
Interface software
(IBM PC family and compatibles; Apple II family and Macintosh)
$49

from:
Oberon International
5525 MacArthur Blvd.
Suite 630, LB48
Irving, TX 75038
800/262-3766
214/446-9567



Keying data into a computer is a tedious, boring, tiresome task, and there aren't many alternatives to typing. The Omni-Reader is a blessing for people who want to put typewritten documents into a computer. It does the "keying in" for you by scanning the typewritten characters and converting them into digital text and numbers. Instantly.

The Endless Apple

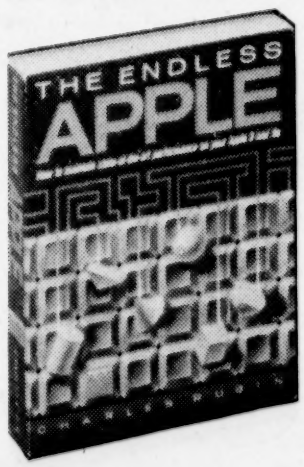
STEVEN LEVY: Here is the rarest of animals: a how-to book with a controversial thesis. The argument is directed to Apple (IIe, II+, and II) owners who are getting edgy about their 8-bit status in a 16-bit world: Don't switch, *implores Rubin,* the Apple II is all you need. *For most applications, he insists, you can find good-as-MS-DOS software; or you can do hardware modifications so your Apple performs as dazzlingly as the IBM PC or other newer machines.*

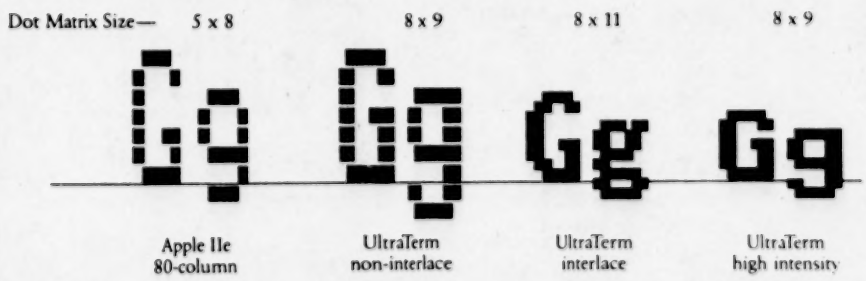
Rubin uses straight-out advocacy as a daring tactic to organize a well-chosen and clearly explained list of Apple II software packages and peripherals. It makes for a compelling, nearly mandatory read for owners of Apple IIes and especially II+s and IIs. Rubin knows he's stretching a point (modifying an Apple II+ as he suggests often costs more than buying a whole new computer), but he has a sense of humor about his procrustean methodology, and his grasp of what's available is impressive, as are his frank discussions on whether this enhancement or that is worth the money. As a long-time Apple II+ owner, I am particularly intrigued at his strong recommendation of PIEWRITER as a heavy-duty II+ word processor. He obviously means it, since he wrote the book with that program.

•

The simplest, least disruptive way to get faster spreadsheet recalculations and other processing is to install a faster version of your Apple's own 6502 processor. The standard processor in Apples is the 6502A, but you can buy a card that contains a 6502C processor instead. The 6502C uses the same instruction set as the 6502A, so it will run the same software. But the 6502C has a clock speed of 3.6 MHz, which makes it exactly 3.6 times as fast as the Apple's normal processor. With a 6502C installed, your spreadsheets will be recalculated 3.6 times faster than they were before; your data will be sorted 3.6 times faster; your display will change 3.6 times faster. Your Apple will, in effect, be as fast as a standard IBM PC — even faster, in many cases.

The Endless Apple
Charles Rubin
1984; 274 pp.
$17.95
postpaid from:
Microsoft Press
Attn: Retail Sales
10700 Northup Way
Bellevue, WA 98004
or Computer Literacy
27 GATE FIVE ROAD SAUSALITO CA 94965

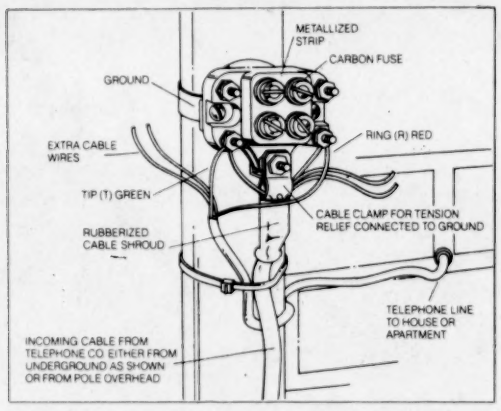




Character matrices

Installing Your Own Telephones

ART KLEINER: Now that your post-divestiture local phone company no longer tacks a wire onto a floorboard for anything resembling a reasonable price, if you want an extension line for your telephone you should install it yourself. That means, for starters, learning the difference between the old four-prong phone jacks and their new little plastic-clicky counterparts, called "modular jacks" in the trade. That's simple enough, but it gets tricky when, say, you add new phones to a multi-line business system, or rewire an antique phone for a modular jack, or run a new extension line within the walls of your house. This how-to book covers all those topics and lots more. It's excellent — full of diagrams, written clearly, and organized for scanning. Radio Shack sells it, presumably to help you figure out how to use all those telephone accessories they carry these days. Wiring up phone extensions is easier than some people think — personally, it's the only job around the house that I relish.


METALLIZED STRIP
CARBON FUSE
GROUND
RING (R) RED
EXTRA CABLE WIRES
TIP (T) GREEN
CABLE CLAMP FOR TENSION RELIEF CONNECTED TO GROUND
RUBBERIZED CABLE SHROUD
TELEPHONE LINE TO HOUSE OR APARTMENT
INCOMING CABLE FROM TELEPHONE CO. EITHER FROM UNDERGROUND AS SHOWN OR FROM POLE OVERHEAD

Protector (plastic cover 3" x 2½" x 2") connection details.

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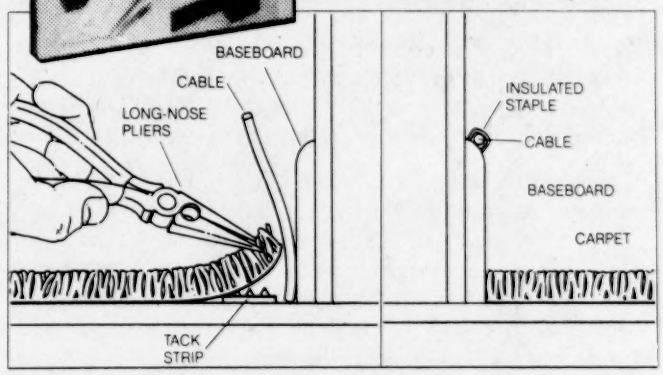
Your local telephone company only guarantees to supply a finite amount of ringing power — usually for five telephones. Each standard ringing power unit is a REN. If the telephones that you install add to more than 5 REN, then the amount guaranteed by the telephone company has been exceeded, and your telephone may not ring. It will depend on how far you are from the central office. Standard telephones take 1 REN to ring. Many electronic telephones take much less than 1 REN so more of them can be connected to the line.

Installing Your Own Telephones
$9.95
postpaid from:
Prentice-Hall Company
Attn: Mail Order Sales
200 Old Tappan Road
Old Tappan, NJ 07675
or Whole Earth Access



One of the neatest ways to run the cable without exposing it is to run it along the baseboard under the carpet. The carpet is pulled up with a long nose pliers without pulling the carpet away from the tack strip. At the doorway, the cable runs under the metal strip that finishes the carpet in the doorway.

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Ordinarily when a telephone is not ringing, the electricity on the telephone line is such that, if a person touches the bare wires of the telephone line, it would cause nothing, or at best only a small tingle in a healthy person. It is when ringing voltage is on the line that more than a tingle occurs. Removing the handset to place the telephone off hook signals the central office that the line is busy, so that ringing voltage will not be applied to the line.

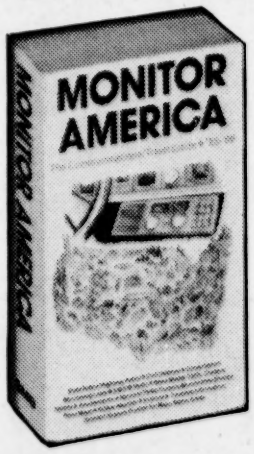
Monitor America

ROBERT HORVITZ: Radio waves easily push through walls and objects, invisibly directing much of the social and economic activity that surrounds us. A large city may have thousands of channels — police, fire, messenger and taxi dispatchers, hospital pagers, news crews, construction projects, security guards, air-traffic controllers, cordless telephones, emergency medical vans, utility repairmen, tow trucks, and on and on. A VHF/UHF scanner can give you more insight into how your community actually works than a decade's-worth of civics classes. It's like having x-ray ears.

***Monitor America** is the first nationwide, all-in-one-volume frequency directory published for scanner users. With so much ground to cover, it cannot hope to be all-inclusive, so it focuses on major systems: state, county, and local government, news media, tourist attractions, airports, civil defense, weather advisory stations, sports arenas, and shopping centers, plus miscellaneous systems unique to their locale (in Florida, for instance, Disney World, Kennedy Space Center, and Daytona Speedway; in California, wineries and vineyards). In addition, there are maps, district plans, tables of channel names and functions, and translations of the local "10-codes" (the number jargon used in law enforcement, like "10-4," meaning "affirmative"). Everything is arranged by state. The book is thick but compact, designed for travelers, so you can quickly find your way around an unfamiliar radio-landscape. The information is accurate, current to January 1985, and very well presented.*

*It is illegal in a few states to operate a scanner in a vehicle. **Monitor America** has a brief summary of state laws, but for a more detailed overview of the legal situation, consider getting **A Guide to Monitoring Laws of the United States** ($8 postpaid from Command Post Communications, P. O. Box 997, Las Vegas, NV 89125) by Bob McGovern, which reprints all known state scanner laws along with court decisions and attorney-general opinions.*

Monitor America
(The Communications/ Travel Guide: 1985-1986)
Richard Prelinger, Editor
1985; 608 pp.
$16.70
postpaid from:
SMB Publishing
P. O. Box 244
Natick, MA 01760
or Whole Earth Access



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New York Police Dept. Radio Code Signals

CRIMES IN PROGRESS

10-30	Robbery in progress
10-31	Burglary in progress
10-32	Larceny in progress (specify auto, from person, other)
10-33	Report of explosive (suspected, device or threat)
10-34	Assault in progress
10-39	Other crime in progress (specify)

Inexpensive, interactive, graphic, online fun . . .

PLAYNET

$40 initial subscription fee (includes 90 minutes of connect time); $2/hr., 6 P.M. to 7 A.M. locally weekdays, 24 hrs. weekends and holidays. Commodore 64. One disk drive and 300-baud compatible modem; color TV/monitor recommended. Playnet, Inc., 200 Jordan Rd., Troy, NY; 800/752-7638.

ART KLEINER: At last, a national computer network that drops all pretense of Serious Purpose: PLAYNET (currently available only for C-64, but Apple II and IBM PC versions due soon) is unabashedly set up for casual talk and game-playing with other people who happen to be online at the moment. Although the games aren't as computer-sophisticated as LODE RUNNER or BLUE MAX, PLAYNET sends you disks that produce some graphics; in chess, for example, you actually see your opponent's pieces move around the chessboard. And on PLAYNET you play with real people and exchange messages at the same time ("Why on Earth did you move your king there?").

What can you play? Chess (I lost my first game, resoundingly, to a 71-year-old player — at least, he said he was 71), Hangman (I trounced a 14-year-old whose hangman word was PORSCHE), Backgammon, Capture the Flag (a version of Stratego), Checkers, Chinese Checkers, Contract Bridge (be prepared for a long siege around the computer), Four-in-a-Row, Quad 64 (complex variations of tic-tac-toe), Go, Reversi (public-domain Othello), and Sea Strike (a version of Battleship and the most popular game on the network). These games are not simplistic clones; they're full-scale versions.

JUDITH LUCERO TURCHIN: The worst aspects about using PLAYNET on the Commodore are Time and Fear. Any switch from one game to another requires at least two disk swaps. Apart from the fact that the undeniably S-L-O-W Commodore 1541 disk drive makes this a time-eating process, the disk drive "locks up" occasionally when the program can't locate a file. Since the network doesn't tell you beforehand when to switch disks, each new choice poses the possibility of locking up the 1541. (If this happens, remove the disk, shut off the drive, then turn it on again.)

ART KLEINER: Judith and I agree that the most fun on PLAYNET is the messaging. PLAYNET's software gives you three windows: one to type in your messages, one to see everybody else's, and a third for private messages, a brief directory, and other special features. If you just want to chat, you type in a one- or two-line message and everybody in that "room" gets to see it. If you want privacy with someone, you create your own online "room" and both of you go there. If you're looking for, say, a Chinese checkers partner, you can broadcast your request to everyone else on the system repeatedly until someone gives in and agrees to play with you. There's a continually running informal version of Trivial Pursuit online (which I found more fun than the face-to-face versions) and bulletin boards (I found these cumbersome).

PLAYNET is new and growing fast. By the time you read this, it will have evolved more features (like, I'm told, the ability to observe games played by others). It's the least expensive national network yet — definitely worth a look if you have a C-64 with modem and disk drive; possibly a godsend for anyone confined to home or laid up in bed with an illness.

Three things are going on at once in this screenshot of a PLAYNET session. The top portion shows Quad 64, a full-color, three-dimensional variation of tic-tac-toe. You place the ball on the next square to be filled with your color and hope you can block your opponent's row. Below, you see the last two comments in a PLAYNET "room" where about ten people are exchanging one-liners. Below that is a comment ("hi folks") you'd type yourself, about to be sent into the "room."

UPDATE

Pretty good Mac shareware

ART KLEINER: Get ready for a deluge of telecommunication programs if you have a Macintosh. Commercially developed ones will shortly appear by the dozen. What with the Mac's capability for graphics and windowing, some of them will be remarkable, but thus far I've seen none I can recommend enthusiastically (I've seen MITE, MACTERMINAL, and PROCOM from Prometheus).

The low-cost shareware frontier is a different story. An avid public-domain community, based partly on the CompuServe Apple SIG and partly in users' groups, has created several cheap terminal programs which you can download or get from a users' group. If you like them, you can pay for ongoing improvements and support. If you don't use them, you don't pay.

The two we've chosen run faster, use the mouse better, and are less prone to crashing than our previous public-domain recommendation, MACTEP, or its many progeny.

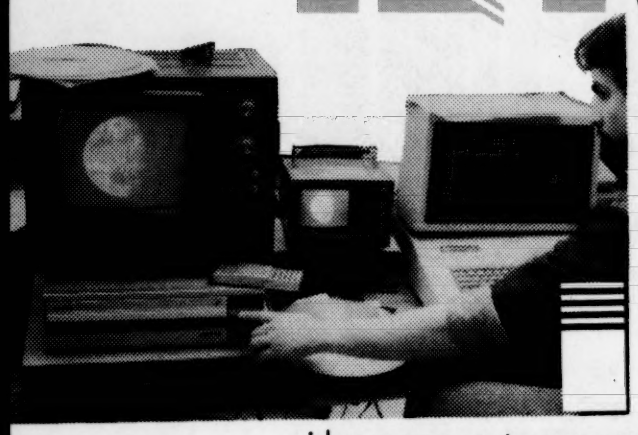
PAT NIEHOFF: RED RYDER is the most full-featured terminal program for the Macintosh that now exists. What it has that other programs I've tried do not: programmable macro keys, your own automatic log-on procedures for any telecommunication service, and three kinds of up/down-load protocols (straight text, XMODEM, and KERMIT). You can even use the Macintosh Disk Accessories during the program's run. It also doesn't hurt that, at $40, it costs less than half of what MACTERMINAL and STRAIGHT TALK (from Dow Jones) cost.

ART KLEINER: RED RYDER is full of useful features that you must poke around to discover (developer Scott Watson has a well-written but limited manual). It's not made for booting up and dialing; to use it effectively, you must write command files for dialing your number, logging in, and responding to prompts. (Your first command file will take an hour or more to write, so be prepared.) It does have many small conveniences, though: a mouseclick window on the screen for common control characters, for example.

An alternative to RED RYDER, called PRETTY GOOD TERMINAL, was suggested by Jay Kinney. PRETTY GOOD TERMINAL dials the phone, logs you in, sends and receives text, and doesn't do much more. But it works, costs little, and feels elegant to use, and you have to admire the gentle sense of humor of its creator.

RED RYDER ($40 registration fee): Freesoft, 10828 Lacklink, St. Louis, MO 63114; 314/428-8057 (after 6 P.M. CST). • **PRETTY GOOD TERMINAL** ($15 if you supply disk; otherwise $25): Phil's Pretty Good Software, 440 South 45th St., Boulder, CO 80303; 303/494-1305.

INTERACTIVE VIDEO



by Fabrice Florin

INTERACTIVE VIDEO will give you a good reason to turn your TV back on. The same glimmering plastic laser videodiscs that play popular movies and, in compact size, rock and classical music, can be browsed at random or be connected to a microcomputer which allows the viewer and the video program to respond to each other.

Rather than watching passively, slumped in an armchair, you drive this video software like a computer program. At the touch of buttons you scan through a storehouse of images and sounds much as you would flip through the pages of a book. With the help of a microcomputer you can rearrange the display of sound and images in a new order, or have it branch in alternative paths for a teaching lesson or game. Like a good book, it encourages multiple readings.

The videodisc is an extremely durable visual encyclopedia with up to 54,000 color pages per disc side. A slide collection that large would cost four or five times the price of the disc. It's also the equivalent of several 16mm films, which could justify the purchase of both a player and a disc. Some of the better discs have dual sound tracks. The initial one is for beginners; then you graduate and go through the same images with the advanced sound track. The largest drawback so far is that you cannot *record* images or sounds — you can only play and reorder the prerecorded component images.

The video industry defines four levels of interactivity:

level 1 — manual control and rapid random access
level 2 — internal control with simple branching
level 3 — sophisticated external control
level 4 — advanced artificial intelligence

With the exception of Halcyon (level 4), all the programs reviewed here are level 1.

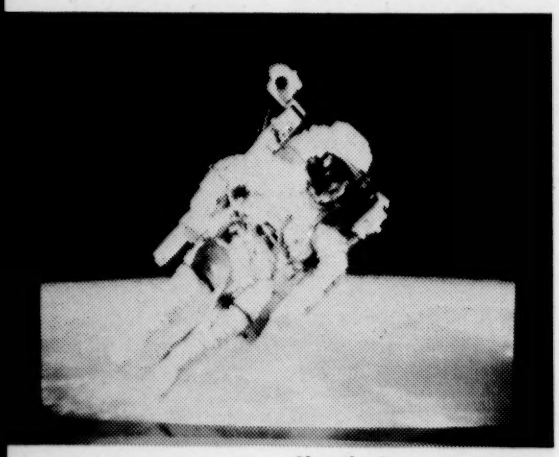
NASA Space Discs

An extensive collection of NASA's "home movies" from Apollo, Space Shuttle, Voyager, and other space programs, complemented with thousands of acquired films and slides of stars and planets. Experience the excitement of the High Frontier in the privacy of your own living room. With a remote control, you're in the driver's seat as you speed through spectacular lunar landscapes at the wheel of the EVA, or gently float around the Earth at 17,000 miles an hour. Each film clip is preceded by hundreds of stills from that mission, including some really gorgeous pictures of the Earth from outer space. A printed image directory is provided with captions for each photo, although it would be easier to tell what you're looking at if they had simply labeled each still frame right on the screen.

The ***Apollo*** *series captures every major moment of the historic moon program, from astronaut training to final splashdowns. The* ***Shuttle*** *discs are perfect "coffee table" videos. Covering the first 13 Space Shuttle missions (test flights included), the discs are loaded with tidbits of information about life in orbit, as well as breathtaking space walks. The* ***Astronomy*** *disc is less dramatic, but contains a true wealth of high-res photos, computer simulations, and other interesting information about the universe and our solar system guaranteed to keep budding astronomers glued to the screen.* ***The Sun*** *and* ***Voyager*** *discs are more detailed versions of the same.*

These images are offered in two versions: a condensed ***Space Archive*** *series for consumers and an educational* ***Space Disc*** *series, higher-priced but more complete. Whichever you choose, this is the most universally appealing application of the videodisc medium that I've seen so far.*

*Also available: VAI// interface for the Apple // and //e (**$125**) and LASER WRITE interactive authoring program (**$75**; allows you to create interactive computer lessons with structured branching routines — captions, true/false, or multiple-choice questions — with or without a laserdisc player online).*



Shuttle Reports (NASA).

NASA Space Discs

Space Archive
Consumer Series:
Space Shuttle Mission Reports STS 5, 6 & 7
Shuttle Downlink — The Repair of Solar Max
Apollo 17 — Mission to Taurus Littrow
(map included)

each **$41.95**

All postpaid from:
Video Vision Associates, Ltd.
7 Waverly Place,
Madison, NJ 07940
201/377-0302

Space Disc
Educational Series
(directories included):
1: Voyager (1 disc)
2: Apollo (2 discs, EVA map)
3: Shuttle (3 discs)
4: The Sun (1 disc)
5: Astronomy (1 disc)

$320 - $400

Criterion Film Classics

While most recent movie titles are available on videodisc, they are generally duplicated in the "extended play" (CLV) format, which does not allow full use of the videodisc's unique features like frame search, still/step, forward/reverse, fast/slow-mo, etc. One notable exception is the Criterion Collection, dedicated to state-of-the-art presentation of fine film works for home video. The first two titles are true cinematic milestones: ***Citizen Kane*** *and* ***King Kong****, both offered in the "standard play" (CAV) format, which takes advantage of the videodisc's capabilities. They are made from the best available prints and negatives. At the end of each film, there is a specially-created mini-show using production stills, storyboards, and explanatory text on the making of these classics. Added goodies include rare footage exclusively shot by Welles for a* ***Kane*** *trailer, and, on the second audio track of the* ***Kong*** *disc, a superb running commentary by film historian Ronald Haver, which adds a whole new dimension and background to the film.*

Criterion Collection

Citizen Kane (3 discs)
$93.95 postpaid
King Kong (2 discs)
$78.95 postpaid

from: Criterion, Inc.
2139 Manning Avenue
Los Angeles, CA 90025
800/446-2001
(in CA: 800/443-2001)

King Kong.

National Gallery of Art Disc

Because of its capacity to store and retrieve large quantities of visual information with the finest reproduction quality available, the videodisc is an ideal medium for the study of fine arts. A case in point is the ***National Gallery of Art*** *videodisc, which brings the treasures of America's most popular art museum onto your TV screen. This visual data bank catalogs 1,645 images of paintings and sculptures, representing several centuries of civilization, all on one disc. Each reproduction, specially photographed against a neutral background for this project, can be viewed over and over again, with or without captions. In addition to this image catalog, the disc also features a guided tour of the museum by the curator and various department heads. I could have done without the self-serving museum history segment, and wish they had used that disc space for more close-ups and details of the art.*

National Gallery of Art

$97.50
postpaid from:
Videodisc Publishing, Inc.
381 Park Avenue S.
Suite 1601
New York,
NY 10016
212/685-5522

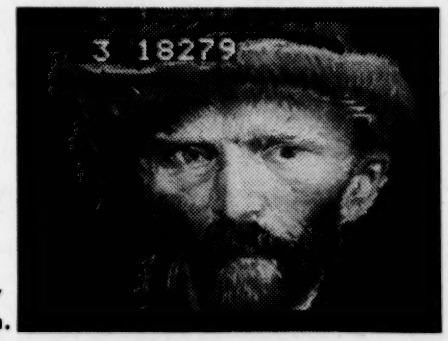
National Gallery of Art Disc.

Vincent Van Gogh

Vincent Van Gogh *is an even more effective and focused approach to art history, presenting a two-part portrait of this major Post-Impressionist.* ***Van Gogh Revisited*** *(Side 1) is an overview of the five main periods of Van Gogh's career, with critical commentary by Leonard Nimoy on audio track 1 and the painter's own thoughts, excerpted from his letters, on track 2. It is accompanied by a "visual database" of over 450 still frames of his greatest works, cataloged and cross-indexed by period and theme. Particularly interesting is the opportunity to compare Van Gogh paintings with the works of his contemporaries and with the landscapes and social context in which he lived, or to examine close-ups of wide shots by toggling between two adjacent frames. You can learn more from a few hundred well-chosen still frames than from ten thousand frames of motion picture video. The moving pictures give you a feel for what's there, the stills give you the opportunity to explore further and in depth.* ***Vincent*** *(Side 2, CLV) is a one-man video play starring Nimoy in a so-so monolog on Van Gogh's life, as seen through his brother's eyes.*

Vincent Van Gogh

$49.95
postpaid from:
North American Phillips Corporation
100 East 42nd Street
New York, NY 10017
212/850-5011



Self-portrait, Vincent Van Gogh.

Gardening at Home

Both an outstanding how-to program and a comprehensive reference work on the fundamentals of gardening, from soil preparation to planting, fertilizing, pruning, weeding, etc. Host John Lenanton presents useful information in a well-organized and very visual fashion, covering all varieties of domestic plants (including indoor plants). The program makes good use of its dual audio tracks to compress data: channel 1 contains basic information for beginners and channel 2 has some additional tips for experienced gardeners. The disc also contains a large database of still frames, including: a "Plant Guide" of 350 photos of plants with text about their care and growth; charts of soil pH, planting schedules, etc.; a glossary of important terms; and an index of over 500 subjects. Not only did the disc really give me a good feel for what gardening is all about, it actually enticed me to try it out for myself, although I never was much of a plant-lover. What's more, it gave me the basic information to do so. Not a bad deal for thirty bucks.

Gardening at Home

$29.95
postpaid;
Catalog **free** from:

Xerox Information Resources Group
One Pickwick Plaza
P.O. Box 6710
Greenwich, CT 06836
203/625-5675

Gardening at Home.

The Creative Camera

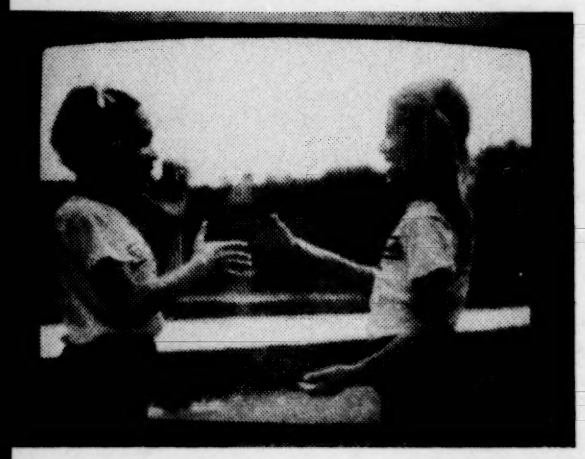
The Creative Camera.

The Creative Camera
$32.95 postpaid
Catalog **free** from:

Pioneer Video, Inc.
200 West Grand Avenue
Montvale, NJ 07645
210/573-1122

The Creative Camera *is a well-done video primer on the art and hobby of photography. Each of the ten chapters explores a different subject, such as lenses, film, light, exposure, or how to photograph people, sports, special effects, etc. Again, a dual audio track separates basic information from more advanced tips. Five different photo assignments give you glimpses of different shooting styles and techniques. Conspicuously missing is a serious image catalog of great pictures from the world's best photographers. Regardless, the disc effectively accomplishes its goal, which is to teach you how to use your camera for more than family snapshots. In a couple of hours, I learned more than I would have reading a book for an afternoon. It was also much easier to absorb the information, although I'm not sure it was as thorough.*

Fun & Games



Fun & Games
$29.95
(retail outlets only);
Catalog **free** from:

MCA Home Video
70 Universal City Plaza
Suite 435
Universal City, CA 91608
818/508-4315

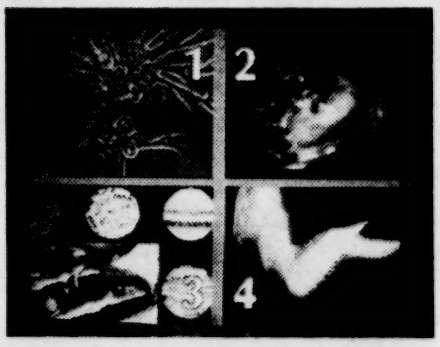
The Clapping Game
Fun & Games.

Kids love to play and they also love to watch TV. This videodisc successfully caters to both needs. Over 40 different indoor and outdoor games and activities for all ages and skills are presented, ranging from hopscotch to kites, hand shadows to charades. Old favorites like yo-yos or clapping games are mixed with original visual puzzles, letter and board games, eye-hand coordination and memory games, all especially designed to be played on videodisc. Onscreen entertainment is provided by the likes of comedian Bill Murray doing tongue-twisters in his own inimitable style. How-to information is ingeniously compressed by speeding up demonstration footage, which can be viewed later in stop-motion.

I now know a lot more about marbles and making puppets than I did when I should have . . . 25 years ago. When tested on my three-year-old boy, however, the disc did not have that much more of an impact than, say, ***Sesame Street****.*

The Bio-Sci Videodisc

Bio-Sci.



The Bio-Sci Videodisc
$495
postpaid from:

Videodiscovery
P. O. Box 85878
Seattle, WA 98145-1878
206/524-4007

Designed for bio-hobbyists and educators alike, this single disc contains more than 6,000 images of birds, fish, mammals, ecology, and biochemistry. It also includes three short movies and maps, charts or diagrams ranging from time-lapse frog cell development to stereoscopic views of RNA molecules or cross-sections of the human body showing the location of various organs. A printed catalog cross-indexes each still by subject, frame number, and in alphabetical order. Because of its limited market, the disc is priced a bit high for individual buyers other than fanatics, but at one-tenth the cost of a similar slide collection, it's a bargain for biology and science teachers, or school libraries.

The History Disquiz

The History Disquiz
$32.95
postpaid

Catalog **free** from:
Pioneer Video, Inc.
200 W. Grand Avenue
Montvale, NJ 07645
201/573-1122

Testing the History of China
History Disquiz.

This video version of popular "trivial pursuits" games uses 45 old newsreel clips from the Hearst Time Capsule Library as the basis for over two thousand trivia questions and answers. Hosted by entertainer Steve Allen, this new parlor game shows fascinating historical footage of heroes and villains for the twentieth century, from Hitler to the Beatles, from Nixon to King Tut. Although inspired by the clips, the text questions that follow each sequence are not limited to just history, but cover a wide range of current subjects, from sports to popular entertainment to politics. While quite a few questions fall in the ho-hum type of trivia and too many jokes are on the corny side, the game provides more hours of recreation than you'll ever need, plus a good opportunity to learn more from and about our cultural heritage.

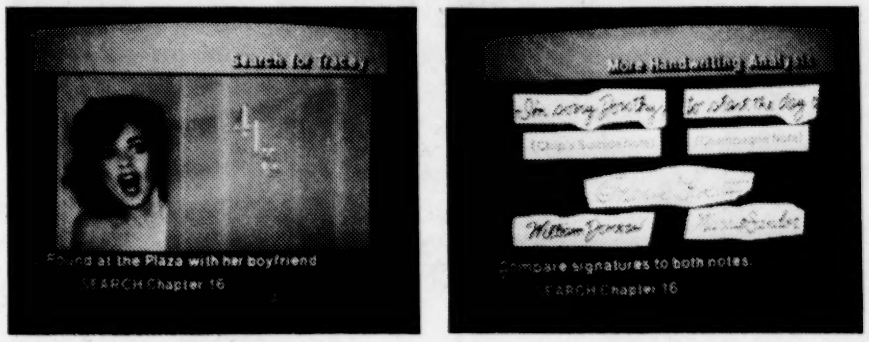
Murder, Anyone?
• Many Roads to Murder

These two mystery games are filmed in live-action and inspired by classic "whodunnit" detective stories set in the thirties. By using separate soundtracks, each game weaves 16 different story lines around a single murder case, and challenges you to match skills with private detective Stew Cavanaugh as he hunts Murderer, Motive, and Method for each plot. Along the way, you'll meet several stock characters of the genre, including ruthless millionaires, actresses, playboys, gamblers, and butlers,

most of whom, of course, are prime suspects and lying through their teeth. To resolve each story line, you have to analyze the still-frame clues in your investigation file, then make the correct accusation. While I give credit to the concept's innovation, there are several aspects which I find disturbing: 1) the acting leaves a lot to be desired; 2) visual clues are hard to read on a regular TV screen; 3) there's no visual payoff once you resolve the mystery; 4) without a computer interface, the games turn players into frame accountants, and too much time is spent punching keys rather than enjoying yourself; 5) instead of creating 16 different story lines, the game designers should have concentrated on just a few good ones, with more details, visual clues, and overall sophistication (most players end up playing them only a couple of evenings per year). Regardless, the Mystery Discs are lots of fun and are definitely worth a try as a preview of what's to come.

Mystery Discs
$29.95 each
postpaid from:

VIDMAX
36 E. Fourth St., Suite 734
Cincinnati, OH 45202



Many Roads to Murder.

Halcyon

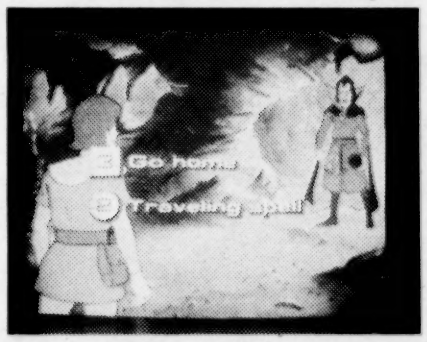
*Obsessive gamesters will no doubt appreciate, as I did, this ultimate interactive toy, designed by the creators of arcade hit "Dragon's Lair" on a reported $5 million development budget. But if they do, they'd better have plenty of time and money to spare. Priced at $1,900, the first interactive videodisc system for the home is hardly a bargain, although it does include its own disc player and microcomputer in addition to videodisc software. Named after HAL, **2001's** cybernetic protagonist, Halcyon allows you to control the action on the screen with either keyboard or spoken commands, using a space-age headset and microphone with voice recognition, speech synthesis, and "some" artificial intelligence.*

You could easily spend a couple weeks of your life trying to resolve "Thayer's Quest," Halcyon's initial offering. This fantasy adventure is inspired by early interactive fiction games, with dazzling animation, full color, and sound instead of computer text. As an active participant in this "sword and sorcery" cartoon, you have to search for the relics of a powerful Amulet, scattered across the Five Kingdoms of an imaginary world.

While none of the above hardware or software ideas are really new, this is the first time they are all brought together as an integrated system and the result is quite exhilarating at first. But the excitement wears off somewhat as obvious design flaws slow down your progress. First off, the voice-activation does not work well enough yet to guarantee accurate response to your spoken commands. After a few hours of play, I had to switch over to the keyboard to retain my sanity. I also ended up turning off Halcyon's obnoxious synthesized voice after a while. Second, the overall game design is rudimentary and often redundant. For instance, there should be a way to speed through segments you've already seen a million times, or even to back up to the previous decision point if you've made a mistake. Third, Halcyon's computer cannot save multiple game positions, forgets everything when you turn it off, and takes forever to restore what it does remember. I'm appalled that this dedicated $1200 microprocessor can't be used for anything other than playing Halcyon adventures, and hope someone comes up soon with software and interfaces enabling Apples, Commodores, or IBMs to play the computer games when coupled to a laserdisc player. Finally, as with many computer games, the writing for this interactive cartoon is just a bit too silly for educated adults to get seriously involved in.

Other Halcyon adventures are now in production, inspired by Greek mythology, space exploration, and the discovery of the New World. They are projected to cost about $80 apiece.

Halcyon.

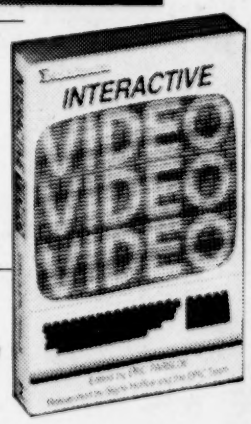


Halcyon
(including "Thayer's Quest")
$1899*
($1199 without videodisc player)
Information **free** from:

RDI Video Systems
2101 Los Palmas Drive
Carlsbad, CA 92008
619/438-1818

Interactive Video

*If you want to learn more about interactive video, this plain-vanilla paperback is the best introduction to the field I know. It is well organized and offers an intelligent overview of how interactive systems work, from consumer to industrial applications. It is marketed in the U.S. by the publishers of **The Videodisc Monitor**, the trade rag of interactive video, and is an excellent source of serious information.*



Interactive Video
$19.95 postpaid
The Videodisc Monitor

P. O. Box 26
Falls Church, VA 22046
703/241-1799
or Computer Literacy

Pioneer Videodisc Players

The only way to enjoy the video software reviewed above is to find yourself some hardware to play it on. I used an LD-700 videodisc player to review all of these programs, courtesy of the folks at Pioneer. This, their state-of-the-art consumer model, retails for around $800. Audiophiles may be interested in Pioneer's latest gadget, the LD-900, which plays both videodiscs and audio compact discs giving you, at a thousand bucks, two players for the price of one. If that's a bit high for your pocketbook, you may want to look into bare-bones models such as the LD-660 (no search features) at $299, or older models like the Pioneer 8210 which, although less fancy and somewhat slower, does the job for $499 or less.

Pioneer Videodisc Players
Catalog **free** from:

Pioneer
200 West Grand Avenue
Montvale, NJ 07645
201/573-1122

Discount Videodisc Players

You can also get a reconditioned industrial model (7820 Model III), or new players at wholesale prices, from American Technology Resources.

Catalog **free** from:
American
Technology
Resources

1245 North
Providence Road
Media, PA 19063
215/565-6434

AFRICAN POP!

by Stephen Davis

AFRICA CALLS OUT to the West with increasing urgency these days. We're all getting more familiar with images of race war in South Africa, corruption and revolution in West Africa, and mass starvation in the Horn. But the positive aspect of Africa Calling is the continent's streaming river of irresistible music.

All African music exists for dancing and spiritual praise, incorporating traditional beats and rhythms that are as old as the hills. The introduction of electricity and amplification to Africa allowed tribal musical traditions to develop into today's major Afro-pop styles — Highlife from Ghana, Juju and Afro-beat from Nigeria, Soukous from Zaire and the Congo, Makossa from Cameroon, and Kwela from Southern Africa.

Because of social conditions at home, many of Africa's best pop musicians currently reside in Europe, cutting their records in France, England, and Germany and sending them home as imports. Consequently, a technocratic variation of Afro-pop is all the rage among the more progressive elements of Euro-youth. Both London and Paris support lively African music scenes, which cosmopolitan musicians like Nigeria's King Sunny Ade and Sonny Okosuns use as springboards for penetration of the North American audience. Many veteran musicians and listeners feel that African music is the dominant influent pop culture of the 1980s, a theory with which anyone who listens to a Talking Heads album might agree. Others suggest that African music is exactly where Jamaican reggae was ten years ago, a brash Third Worlder demanding America's cultural equivalent of a green card.

People tell me that the major barrier to appreciating African music, whether raving Soukous guitars or fricative talking squeeze drums, is just finding it. In the U.S., only the most sophisticated record stores have well-stocked African sections, so both neophyte and veteran listeners must rely on catalogs and word-of-ear recommendations for what to buy. This situation is slowly changing, thanks in part to Island Records' recently completed three-year promotion of King Sunny Ade. Several British and American firms now issue records by some of Africa's more accessible musicians.

What follow are some sources for African music and a short list of books and periodicals designed to slake the cravings of anyone seriously addicted to "ambiance," which is the word that Francophone Africans use to describe the natural high their music produces.

CATALOGS:

Original Music
Catalog **free** from:
Original Music
R. D. 1, Box 190
Lasher Road
Tivoli, NY 12583

African Record Centre Distributors
Catalog **$2** from:
African Record
Centre Distributors
1194 Nostrand Avenue
Brooklyn, NY 11225

Stern's African Record Centre
Catalog **free** from:
Stern's African
Record Centre
116 Whitfield Street
London W1P 5RW
England

Original Music

This small catalog of African-oriented records and books, offered by ethnomusicologist John Storm Roberts, is especially good for beginners. Roberts has compiled superb sampler albums that are effective primers on the newer roots of the music. Highly recommended: ***Africa Dances*** *features basic modern rhythms from all over Africa, while* ***The Sound of Kinshasa*** *traces the beginnings of the Congolese style to Cuban rhumba records from the 1940s. Original Music releases several interesting albums every year on its own label, stocks European pressings of Africana, and carries a solid library of key texts on African, Latin, and Jamaican music.*

•

KPANLOGO PARTY Lyrichord LLST 7251 $8.98

Americans have a tendency to think of traditional African music as drums, and contemporary as guitars. That's a double oversimplification. Kpanlogo, a Ghanaian percussion music, grew up among the teenagers of Accra as did steelband music in Trinidad or even rock and roll in the US, and to the same chorus of adult disapproval. Needless to say, kpanlogo survived! This album, featuring a group led by Ganaian master drummer Mustapha Tettey Addy, has been around a while but is too little known.

ZULU JIVE Carthage CGLP 4410 $8.98
The hardcore South African sound, from the heavy drive of township jive to the jagged blues of rural Zulu guitar and accordion. Heavy stuff.

African Record Centre Distributors

A Brooklyn-based clearinghouse with a retail outlet in Harlem, ARCD has its own label (Makossa Records) and offers a full line of mostly West and Central African music, including hard-to-find LPs by Zairois superstars Tabu Ley Rochereau, Franco, and Dr. Nico. I haven't yet ordered from them; friends say service is slow but very reliable.

Stern's African Record Centre

This central-London shop offers the most complete service on both African and European pressings I've seen so far, along with an in-house label (Stern's) that has a sweet tooth for Ghanaian music. If you've got to have that new disc by Kanda Bongo Man or Pamelo M'ounka and Stern's doesn't have it, better look for something else. Fast service via air mail makes up for having to pay in sterling or by international money order.

•

Makossa music is the best known of Cameroon's many popular dance rhythms. Similar in feel and tempo to highlife and soukous, featuring guitars, brass, keyboards, etc. Manu Dibango is the best known star of Cameroon. Others are Moni Bile, Eko, Jacky Doumbe, Pierre de Moussy, Toto Guillaume, Bebe Manga, Tokot Ashanty, and Sam Fan Thomas with his new Makassi blend.

Thomas Mapfumo: Lion of Zimbabwe.

RECORD COMPANIES:

Island Records

No catalog available.
Distributed by:
Atlantic Records
75 Rockefeller Plaza
New York, NY 10020

Rounder Records

Catalog **$3.95** from:
Rounder Records
1 Camp Street
Cambridge, MA 02140

Shanachie Records

Catalog **free** from:
Shanachie Records
1 Hollywood Avenue
Ho-Ho-Kus, NJ 07423

Island Records

This innovative Anglo-Jamaican-Bahamian company made millions on rock and reggae in the 1970s and tried to launch Afro-pop worldwide in this decade. Good compilation albums of Soukous and Ivorian music led to three important albums by Sunny Ade, who married Juju to synthesizers and reggae-style "dub" effects. Regrettably, Island and Ade have parted ways.

Rounder Records

*This Massachusetts label/distributor issues African pop on its Rounder label: Prince Nico Mbarga and Segun Adewale from Nigeria (the latter's "Yo-pop" — short for Yoruba Popular — style is considered the latest wrinkle in Juju) and younger musicians like Nyboma from Zaire and Bibi Den's Tshibayi from the Ivory Coast. They also distribute England's Earthworks label, whose key compilations of Southern African pop — **Zulu Jive**, **Soweto**, and **Viva Zimbabwe** — are the best available.*

Shanachie Records

*This company began selling Irish music, then branched into reggae and African sounds. In addition to strong LPs by Rochereau and his female counterpart, Mbilia Bel, Shanachie has issued great albums by the Lijadu Sisters from Nigeria and by Akanni Animashaun, whose stark "Apala" chanting — acoustic Moslem juju — puts me immediately into trance. They also have discs by South African artists such as Ladysmith Black Mambazo, a strong male chorale, and **Rythms of Resistance**, an excellent sampler of highly politicized music from the 1970s.*

•

LADYSMITH BLACK MOMBAZU *Induku Zethu* SH 43021
This South African all-male acapella choral ensemble, featured in the film "Rhythm of Resistance," is probably the most popular choral group there. The astonishing, pristine beauty of their harmonies has enabled them to create some of the most beautiful music ever heard. (Cassette C-43021.) $6.95.

IN PRINT:

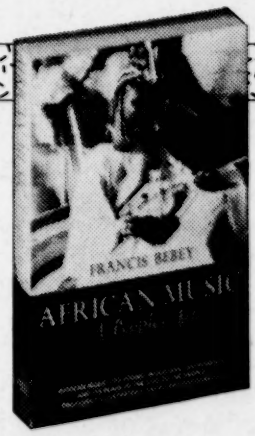
Kora harp-lutes (Senegal). —*African Music: A People's Art*

African Music — A People's Art

Francis Bebey is a writer/musician from the Cameroon who worked as a musicologist for UNESCO. This good translation (by Josephine Bennett) of his 1969 book on traditional African music is a gentle intro to the consciousness of African music as collective art, communal property, and spiritual medicine. Bebey's account of his field work and discussion of folk instruments lays a solid foundation for understanding where Afro-pop comes from.

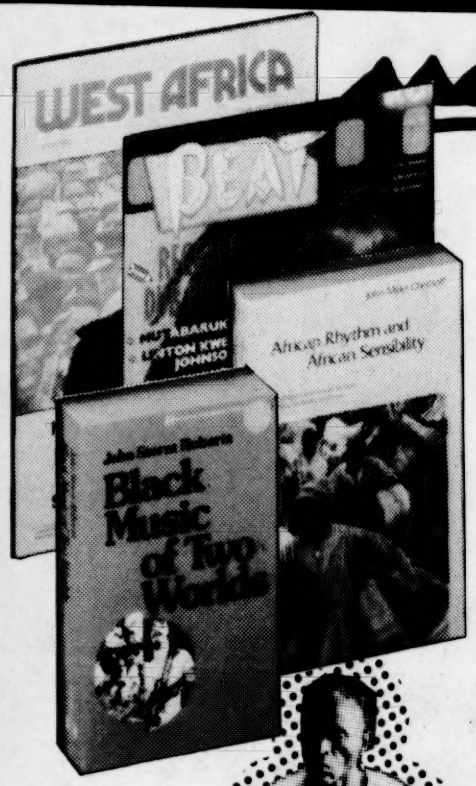
•

The objective of African music is not necessarily to produce sounds agreeable to the ear, but to translate everyday experiences into living sound. . . . African voices adapt themselves to their musical context — a mellow tone to welcome a new bride; a husky voice to recount an indiscreet adventure; a satirical inflection for a teasing tone, with laughter bubbling up to compensate for the mockery — they may be soft or harsh as circumstances



African Music — A People's Art

Francis Bebey
1975; 184 pp.
$10.95
postpaid from:
Lawrence Hill & Co.
520 Riverside Avenue
Westport, CT 06880



African Music and African Sensibility
John Miller Chernoff
1979; 261 pp.
$10.95
postpaid from:
University of Chicago Press
11030 S. Langley
Chicago, IL 60628
or Whole Earth Access

Black Music of Two Worlds
John Storm Roberts
1972; 282 pp.
$7.05
postpaid from:
Original Music
R. D. 1, Box 190
Lasher Road
Tivoli, NY 12583

The Reggae & African Beat
C. C. Smith, Editor
$9.95/year
(6 issues) from:
Bongo Productions
P. O. Box 29820
Los Angeles,
CA 90029

West Africa
Onyema Ugochukwu, Editor
$40/6 months
(25 issues; air-speeded)
from:
West Africa Publishing Ltd.
Graybourne House
52-54 Gray's Inn Road
London WC1, England

demand. Any individual who has the urge to make his voice heard is given the liberty to do so; singing is not a specialized affair. Anyone can sing and, in practice, everyone does.

This is the essence of the collective aspect of African music; no one is ruled out because he is technically below par. Vocal music is vitally important in this respect because it gives the people who perform it every day of their lives a confirmation of the social significance of their art.

Atumpan drums, used for both talking and dance, have a wide distribution beyond the Akan area.
—African Rhythm And African Sensibility

African Music and African Sensibility

J. M. Chernoff spent more than a decade as a drum student in West Africa. This is his masterwork, part Yorubaland adventure story, part sociological dissertation. Its obsession with drumming as history and its passion for rhythm as style is credited with pushing Western pop musicians like Brian Eno and David Byrne to introduce Africanisms to Anglo-American pop (Talking Heads member Byrne claims to have read the thing twice). As a writer, Chernoff is obsessed with getting every nuance on the page, and descriptions of polyrhythmic structures occasionally read like watchmaking manuals. It's that precise. For an additional $15, a 90-minute cassette illustrating the various rhythms is also available, and very worthwhile.

•

Whether or not one is looking from the point of view of a social scientist, one of the most noticeable features of African cultures is that many activities — paddling a canoe, chopping a tree, pounding grain, smashing up the yams for dinner, or simply moving — seem set within a rhythmic framework which can and often does serve as the basis for music and songs. On one of my first afternoons in Accra I went to the airport to fill out the many forms I needed to clear my tape recorder, which had been sent as unaccompanied baggage. . . . The clerk began typing. I flipped. Using the capitalization shift key with his little fingers to pop in accents between words, he beat out fantastic rhythms. Even when he looked at the rough copies to find his next sentence, he continued his rhythms on the shift key. He finished up each form with a splendid flourish on the date and port of entry. I thanked him for his display, and though I regretted having to leave the customs office, I was eager to go out and begin my work, for I realized that I was in a good country to study drumming.

Black Music of Two Worlds

John Storm Roberts' book is the principle work on trans-Atlantic black culture, detailing the African origins of American music and American influences on postwar African music. Its last section, on the urban pop music of post-colonial Africa is the best overview of the subject.

•

The adoption of the guitar by musicians all over Africa led to one of two main generic styles of modern pop music. The first was typically played by a group consisting of one or two guitars and some sort of percussion, almost always a bottle tapped with a knife to give a high chinking note, which filled the role of the *gankogui* in Ewe music or the *claves* in Cuban; by a single guitar; or by a guitar with another instrument, usually African, with or without percussion. The second style came about through the addition of European instruments (usually, at first, guitar) to a traditional percussion dance ensemble. In so far as such categories have any significance in African music, the first was a "song" or "listening" style, in which the words were important, and the second a dance style.

The Reggae & African Beat

*This bimonthly magazine grew out of a popular weekly radio show hosted by Roger Steffens and Hank Holmes on KCRW, the public radio station in Santa Monica, California. **The Beat** is the only periodical in the U.S. that carries up-to-date news, reviews, and interviews on African music, written by some of the best journalists and critics in the business. Gets better with every issue.*

•

While Mapfumo could play live, his records were banned . . . on the Rhodesian Broadcasting Corporation. The ban didn't neutralize the effect that the songs had but rather sharpened the potency of the revolutionary song. The music became truly underground and helped render the government's propaganda strategy impotent. To ensure that his records were reaching the people, an operation was mounted to distribute new releases to record bars throughout the Tribal Trust Lands.

"People wouldn't expect to hear me on the radio because they knew I was banned," says Mapfumo. "They just had to always watch the record bars for our next release."

Unable to halt the proliferation of Chimurenga songs, the government imprisoned Mapfumo in 1977 and demanded that he admit that his lyrics were in support of "the terrorists."

West Africa

Despite this influential magazine's name, it covers almost all of Africa and provides an invaluable context for much current African pop, which often speaks to the social and political issues that rage through the continent. Besides an important weekly news digest, the magazine runs reviews of new albums and occasional interviews with key musicians. ■

ACCESS TO NICARAGUA

by Dick Fugett

*OUR PRESIDENT labels one side freedom fighters and the other Marxist-Leninist agitators aiming to subvert the hemisphere. Human rights groups describe the same "freedom fighters" as mercenaries terrorizing a peasant population with torture and murder, while most of the Nicaraguan population is delighted that the "agitators" ended 45 years of Somoza dictatorship. Meanwhile, the confused citizen here at home is left wondering about the fundamental truths, much as in the early days of Vietnam.**

But unlike our misadventure in Indochina, Nicaragua can be investigated firsthand — it's still legal for a U.S. citizen to visit there, and as long as you stay out of the war zone, it's safe.

*See p. 70.

Susan Meiselas/Now We Can Speak

Young volunteer brigadista for national literacy campaign

A personal look at the scene will do wonders in clearing up your confusions, and there are numerous ways of doing just that. How long the option remains open depends on when the administration decides to put Nicaragua off limits, as was done with Cuba. Don't wait too long. ►

Nicaragua Exchange

Nicaragua Exchange organizes two- to four-week work brigades to pick cotton or coffee from November through March, no prior experience necessary. Since these crops produce most of the country's foreign exchange, your contribution to the local economy will be quite real, not to mention the reward you'll bring home — a personal understanding of life in the Third World.

For us fat norteamericanos, it's a guaranteed eye-opener, a blend of manual labor and extreme conditions that our high-tech, self-indulgent society has long forgotten.

It's not a tour but an experience, and it will set you back about $600 from Miami. Some construction and reforestation brigades may also be sent down this summer.

Information **free** from:
Nicaragua Exchange
239 Centre Street, New York, NY 10013.

Tropical Tours

Great. You're interested, but you're short on time and living with the peasants sounds a little too real. Try Tropical Tours. They'll give you an organized look at the country while minimizing your exertions. Groups travel by bus to visit both historic and critical sites, from the Museum of Revolution in Managua to Corinto, where the CIA harbor mining took place.

Besides the scenery you'll get a chance to meet and question various government representatives who'll offer the Nicaraguan side of the conflict. You'll see much more of the country than the brigadistas do, and be rewarded with better coverage of the Big Picture, but the trade-off is reduced personal involvement.

Costs start at $725 from Miami for a ten-day trip. Tours are also available that include stops in Costa Rica and Mexico.

Information **free** from:
Tropical Tours
141 E. 44th Street
Suite 409
New York, NY 10017.

Witness for Peace

This is a church-oriented group committed to nonviolence that sends citizens to war-zone villages for periods ranging from two weeks to several months. The groups maintain a continuous presence on battle-active Nicaraguan borders in order to witness and report back on contra activities.

It not only gives the participants a close look at reality but also deters violence in the area, for the contras understand that Congress will frown if they blow away the gringos. So far it's worked just fine. Costs are similar to the work brigades.

Information **free** from:
Witness for Peace
515 Broadway, Santa Cruz, CA 95060.

Nicaraguan Language Schools

Perhaps you lack faith in the contras' ability to distinguish between peasants and gringos, and manual labor under demanding conditions fails to excite you. But you'd still like to visit a country where the entire society is changing.

Options remain, such as the language schools. There are two in Nicaragua, and each combines learning Spanish with the reality of Nicaraguan life. You'll be housed with a Nicaraguan family, study Spanish in the mornings, and have afternoons to meet with local groups, including opposition party leaders, or do volunteer work in hospitals or schools.

Casa Nicaraguense de Espanol (CNE) has classes from two to eight weeks in Managua that start at $450, while the Nuevo Instituto de Centro America has programs in the more tolerable climate of Esteli that last five weeks and cost $950. Room and board are included, but not air fare.

Information **free** from:
Casa Nicaraguense de Espanol
70 Greenwich Avenue, No. 559
New York, NY 10011

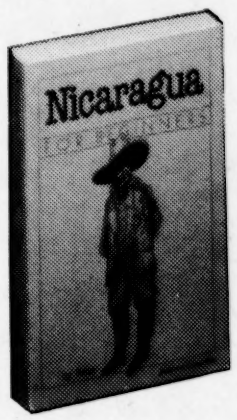
or Nuevo Instituto
de Centro America
Box 1409
Cambridge, MA 02238.

►

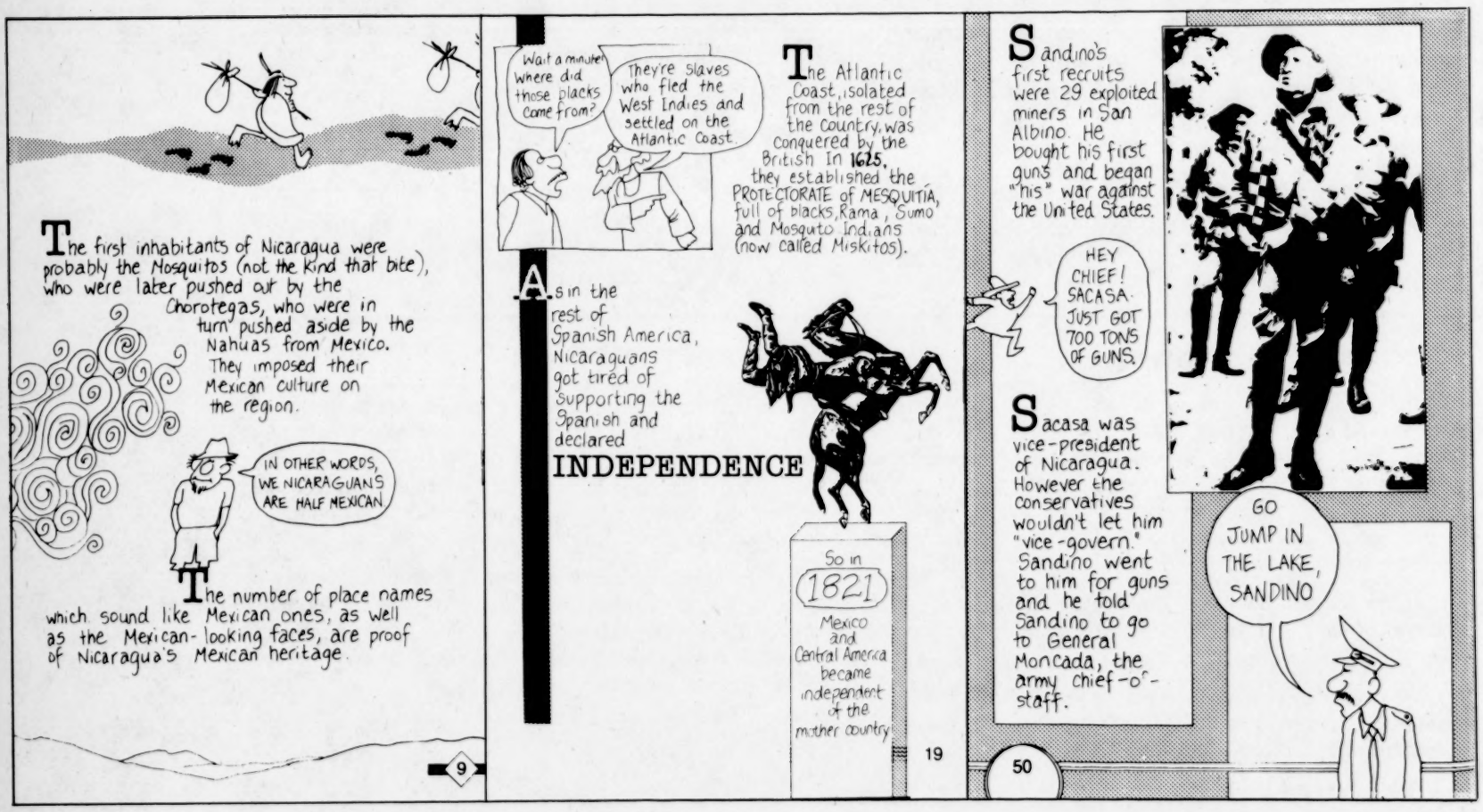
Nicaragua for Beginners

But suppose you're still researching the whole idea and for the time being a good book is what you want. There are plenty of them, with new volumes coming out every month. My favorite for a quick rundown on Nicaraguan history is ***Nicaragua for Beginners*** *by Rius, the legendary Mexican cartoonist and social observer whose art is combined with succinct writing.*

The book covers everything, including the 20-year occupation by the U.S. Marines, their installation of Somoza in 1933, and the bloody years that followed until the people tossed out Somoza in '79.



Nicaragua for Beginners
Rius
1985; 160 pp.
$5.95
postpaid from:
W.W. Norton and Co.
500 Fifth Avenue
New York, NY 10110
or Whole Earth Access


The first inhabitants of Nicaragua were probably the Mosquitos (not the kind that bite), who were later pushed out by the Chorotegas, who were in turn pushed aside by the Nahuas from Mexico. They imposed their Mexican culture on the region.
IN OTHER WORDS, WE NICARAGUANS ARE HALF MEXICAN
The number of place names which sound like Mexican ones, as well as the Mexican-looking faces, are proof of Nicaragua's Mexican heritage.
9
Wait a minute! Where did those blacks come from?
They're slaves who fled the West Indies and settled on the Atlantic Coast.
The Atlantic Coast, isolated from the rest of the country, was conquered by the British in 1625. they established the PROTECTORATE of MESQUITIA, full of blacks, Rama, Sumo and Mosquito Indians (now called Miskitos).
As in the rest of Spanish America, Nicaraguans got tired of supporting the Spanish and declared INDEPENDENCE
So in 1821 Mexico and Central America became independent of the mother country
19
Sandino's first recruits were 29 exploited miners in San Albino. He bought his first guns and began "his" war against the United States.
HEY CHIEF! SACASA JUST GOT 700 TONS OF GUNS.
Sacasa was vice-president of Nicaragua. However the conservatives wouldn't let him "vice-govern." Sandino went to him for guns and he told Sandino to go to General Moncada, the army chief-of-staff.
GO JUMP IN THE LAKE, SANDINO
50

Now We Can Speak

For a firsthand, personal look at the revolution by someone you may have read before, try ***Now We can Speak****, by Frances Moore Lappe, who we first met as author of* ***Diet for a Small Planet.*** *She traveled extensively in Nicaragua in '82, interviewing both proponents and opponents.*

•

"From my very early childhood, my parents have taught me to have upper-class, professional aspirations. In 1975 we moved from Matagalpa to Managua in part because they wanted me to go to the most prestigious private school in the country, the Jesuit school. Nothing has influenced me more than the Jesuits and, ironically, in the opposite direction of my parents' way of thinking. The Jesuits helped me examine my personal practice of Christianity, as a son, as a member of the school and in relations with others. The Jesuits encouraged me to participate in teaching literacy in the poor barrios of Managua, where for the first time I came into contact with the realities of the working people of my country."

—Rene Escoto

•

"You have to understand what revolution does to people," Julianne told us. "For the first time people are not afraid. They have been taking orders all their lives. Now they feel they're not going to accept orders from anyone!

"This was especially true for young people. They were the raw power behind the victory. But with victory, many of them were lost. They had won! No one was going to tell them what to do. Most young kids over 14 had experienced carrying and using arms. 'I'm not going back to sit in sixth grade. Are you kidding?' You couldn't keep the kids in school. They were climbing the walls. They'd lived in the dark so long. Suddenly the lights were on. There was a psychological eruption.

"The government wanted to take that energy and start building with it, but how?"

Now We Can Speak
Frances Moore Lappe
and Joseph Collins
$5.50 postpaid from:
Institute for Food and
Development Policy
1885 Mission Street
San Francisco, CA 94103
or Whole Earth Access

The Nicaragua Reader

If you're ready for thorough research it's time for ***The Nicaragua Reader****, a collection of essays and documents ranging from Reagan speeches to detailed studies of health care, education, and the women's role in the revolution. Regardless of your political hue, you'll be impressed by some folks' genius and perspicacity while dismayed by the egregious ignorance of those who think differently, for there's something here for everyone. In the process you'll also learn about the Miskito question, why Eden Pastore bailed out on the revolution and joined the contras, the political aftermath of the '72 earthquake, and loads more. Required reading if you're serious.*

•

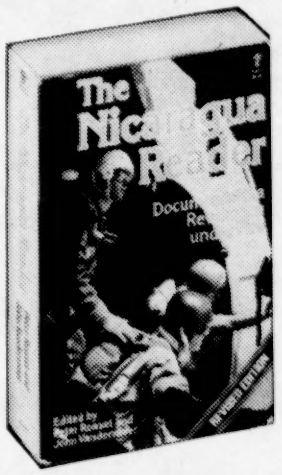
The anti-imperialism which was a foundation of Sandinismo was totally absent on the Atlantic Coast, where many regarded the period of US presence as "the good old days." The Moravian church, whose missionaries adopted the simple life style of the Miskitu beginning in 1849, is the dominant religious force in the region and tended to reinforce the anti-communist, pro-US ideology of Somocismo. The Moravians also filled the vacuum imposed by Somoza's neglect, functioning as the political apparatus and government in many small villages.

During the Somoza years few National Guardsmen were stationed on the Atlantic Coast. The insurrection barely touched the Coast, except for the mining area where Somocista repression was severe and where there was significant support for the FSLN. Numerous Coastal people did fight with the FSLN, but usually on the Pacific side, where many had been students in Managua. Lack of cross-cultural awareness was a serious problem that would not be resolved overnight. People on the Pacific side knew little of the reality of the Coast, and the Coastal people viewed the "Spanish" with suspicion and distrust.

Beginning in January 1981, 39 Coco River [Miskitu] communities were moved to five resettlement camps 50 miles to the south. By all accounts the experience has been difficult. The people left homes and livestock, which had to be destroyed to prevent use by counterrevolutionaries. Living conditions in the new makeshift camps were uncomfortable. Morever, many people, having lived in relative isolation and recently assailed by counterrevolutionary propaganda, did not understand the reasons for the relocation.

There is a saying in the Miskitu culture: "The monkey says, only what you have in your stomach is yours," roughly

Men roofing a rural school house in a Miskito community near La Cruz



The Nicaragua Reader
Peter Rossett
and John Vandermeer,
Editors
1983; 383 pp
$9.95
postpaid from:
Grove Press
Attn: Bill Jordan
196 West Houston Street
New York, NY 10014
or Whole Earth Access

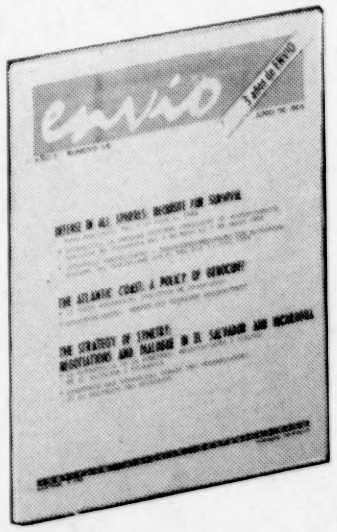
equivalent in usage to "the proof is in the pudding." In Tasba Pri this means the Miskitus will trust the Sandinistas only to the extent that they deliver on their promises.

Envio

In a scene this passionate and fast-shifting, it's especially interesting to stay close to current events. Here in the U.S. there's no end of journals to present the North American perspective, as a quick look at ***Time*** *magazine will show.*

But if you suspect there's another viewpoint and that absolute truth may lie somewhere between two extremes, then investigate ***Envio****. These are the folks who broke the story on the training manual supplied by the CIA to the contras, and they stay close to the scene. It's a small-circulation monthly that has a feel of genuine commitment to the topic.*

Envio
Fr. Alvaro Arguello,
S.J., Editor
$35/year
(12 issues) from:
Central American
Historical Institute
ICC #307
Georgetown University
Washington, DC 20057



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There have admittedly been abuses by some members of the Nicaraguan military and security forces. In conversations with Miskito villagers from 27 villages where there had been conflicts, 23 of which were in northern Zelaya, we heard frequent negative comments about the treatment they received from Sandinista soldiers from the Pacific, particularly in 1982. Often we heard the comment, "Now the soldiers are good, not like they were before." Reports of specific abuses centered mainly in the communities around the Seven Bank and Walpasiksa camps, and occurred during the period July-September 1982, when these camps were being routed.

•

A number of those we interviewed did not initially distinguish between torture and abuse such as beating or simply hitting a prisoner, tending to use the word torture for all three. While reports of actual torture were never as exotic as those offered by Dr. Nietschmann and others, we were told of 27 cases of physical abuse, of which eight were qualifiably examples of torture. (The majority of such cases consisted of holding a person's head under water to force the person to give information). The other 19 referred to prisoners hit or shoved with rifle butts during the transfer from their community ►

to Puerto Cabezas or during their stay in the jail there. No physical abuse was reported to have occurred during the initial period of questioning in the villages. In five of the 19 cases, it appeared that prisoners had actually been beaten. Nonspecific references indicated that additional numbers of people had been mistreated, but the extent of this is unclear. On the other hand, a nurse we interviewed in the Bluefields hospital said that in her own experience, none of the wounded counter-revolutionaries treated there showed signs of abuse. A doctor in the same hospital said they are given the same priority for scarce blood or transfer to the Managua hospital as wounded soldiers.

Nicaragua via Shortwave

But when the news is breaking hot and fast and there's no time to read between the lines, how does an interested observer follow events? Try shortwave radio. Every night just after 8 p.m. PST (0405 GMT), there's news in English from Nicaragua. It can be found in the 49-meter band at 6015kc, and since the signal isn't strong you'll need a fairly good receiver to pull it in. Should you lack a receiver but know someone who's into ham radio, you might prevail upon them to assist.

Nicaragua Handbook

If you've decided to really go down there and see for yourself, and you're going solo because groups suck and you're smarter than them, at least look at ***Nicaragua Handbook: Tips for Travelers.*** *It's a pamphlet based on other people's recent experiences, both good and otherwise.*

Prepare for a country in which items as basic as light bulbs and batteries are almost nonexistent, gas stations are closed on weekends, and changing money on the black market can land you in the clinker. This economy of extreme scarcity will challenge the unprepared traveller, especially one who decides to bop in unexpectedly.

•

Photography:

1. Instant photocopying is not available in Nicaragua.
2. It is illegal to take pictures of military installations.
3. Please be courteous in taking pictures of Nicaraguans by asking their permission. Memorize the question: "May I take your picture?" *"Me permite tomar su foto?"*

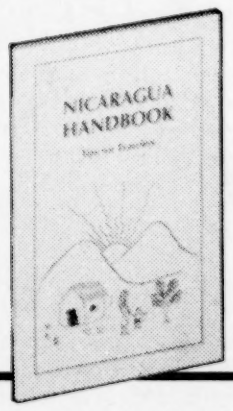
Taxis: In Managua taxis will not make a U-turn to pick you up. To flag down a taxi, stand on the side of the street with traffic heading toward your destination. Before entering the taxi, give your destination and ask the cost. Prices are figured by zones in Managua; for an average distance you should be charged 8-10 cordobas per person (except after 10 p.m. when you must reach a mutually agreeable price with the driver.) If the price seems too high, say *"Eso es demasiado!"* and don't get in.

Taxis are crowded. Don't hesitate to flag down one that is already occupied. Tipping the driver is not customary.

Cindy Craig, WER circulation and distribution honcho, assists in the Nicaraguan cotton harvest.

Nicaragua Handbook: Tips for Travelers

$5 postpaid from:
National Network in Solidarity with the Nicaraguan People
2025 I Street NW
Suite 1117
Washington, DC 20006



Tecnica

Tecnica sends groups of people technically proficient in such fields as economics, engineering, computers, and mechanics for two-week stints. They work with government agencies and train local people in their skills, a kind of mini-Peace Corps. Groups leave every two months, and the cost is $850 from San Francisco.

Information **free** from:
Tecnica
1227 Fourth Street
Santa Monica, CA 90401
213/451-2428

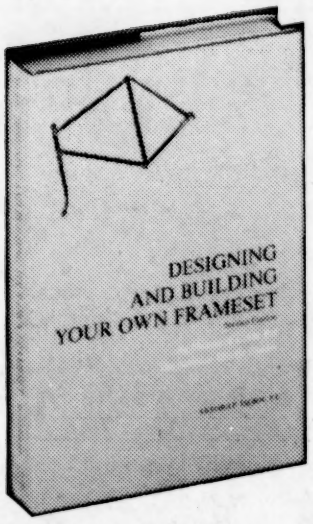
*Censorship

In his book ***The Washington Connection*** *(**CQ** #41, p. 53), Noam Chomsky mentions self-censorship, which differs in technique from the up-front, Soviet style we're often warned about. We experienced an example of the former variety when a condensed version of this story was submitted to the* ***San Francisco Chronicle*** *for our weekly "Whole Earth" column. Our normal offerings on Swiss army knives and solar-powered backpacks go through automatically, but this one bounced back fast, with lines drawn through it (everything you see in gray). The word was that if we wanted the story printed at all, the deletions would stay. Nobody used the word censorship.*

Faced with superior power, we rolled over and played dead. Thus the casual ***Chron*** *reader was never told, for example, that the U.S. Marines, who occupied Nicaragua from 1912 to 1933 while fighting Sandino, installed Somoza when they left. Is this deletion of detail an explosive item that demands the world's attention? Nope, no big deal, it's just another tiny item in U.S. history that won't be mentioned anymore. Is this deletion of tiny items similar to what Orwell's "Ministry of Truth" did as they rewrote history? Who knows?*

On the other hand, why did they zap that line about hi-tech, self-indulgent society? It's the same one I used in the triathlon story, and they printed that. ■

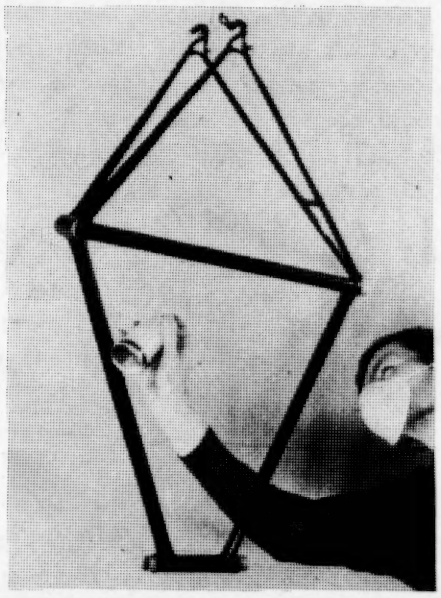
Designing And Building Your Own Frameset



J. BALDWIN: Would you dare build your own bicycle frame? What about a possible face-plant at 40 mph, downhill, when your inexpertly-done fork breaks? Hmmmm. On the other hand, consider the price of a bike custom-made to match your abilities and physique. Or that idea you have for a Human-Powered Vehicle.

What we have here is quite literally everything that you need to know in order to fabricate your own custom-fit bicycle — everything, that is, that can be demonstrated in a book. And what a book! Absolutely nothing is assumed; all terms are defined; trade secrets are secrets no more. The tiniest technical details are described and illustrated with extra-clear photographs. The accompanying chat helps you develop the mind-set that'll call out your intuition and hasten the arrival of your expertise. This book won't be surpassed for a long time.

Designing And Building Your Own Frameset
(Second Edition)
Richard P. Talbot
1984; 166 pp
$26.00
postpaid from:
The Manet Guild
Box 73
Babson Park, MA 02157

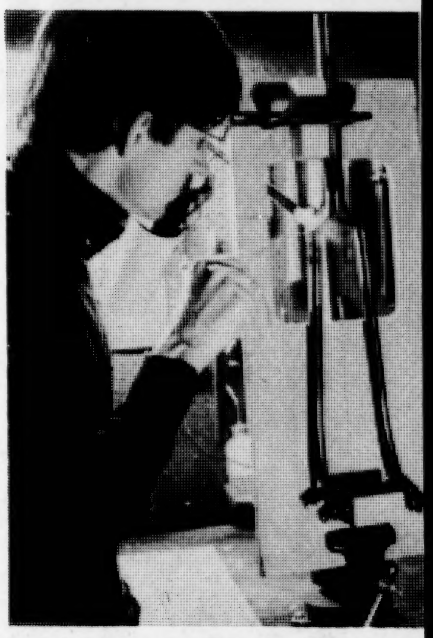


"Shooting" a lacquer color coat.

•

Borrow, rent or buy a torch, order some rod and flux, and purchase a few lugs and tubes to practice on. (Junked bikes are one source of free tubing.) As you practice, cut apart the completed joints and examine them to determine the degree of alloy penetration and the strength of the bond. *"Destructive testing"* is a particularly useful learning tool and is really the only way to gauge your proficiency (or lack of it).

Keep practicing until you are convinced either that you can do a passable brazing job or that brazing is simply not for you.



Brazing the crown/blade joints.

Mitering seat stay ends to fit the bolt tube.

Bike Nashbar • Performance Bike

JOE KANE: These are the two best bicycling mail-order sources I've found. Their prices run about 20 percent below what you'd expect to pay in your local bike shop, and both have a "we'll match your closest price" policy. Still, there's enough difference between the two to make both worth checking out.

Bike Nashbar is probably more well known than Performance, and its catalog is definitely more thorough. It covers the spectrum in quality, from cheapo to rico, and includes such esoterica as camping gear, trail food, and — I didn't believe this until I saw it — hot tubs!

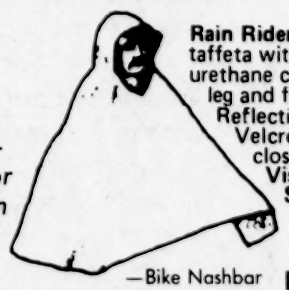
Performance limits itself to middle- and high-quality fare, and its catalog is a slicker overall presentation than Nashbar's, which is something I welcome: the high-quality color photos give you a better idea of what you're getting than do the black-and-white drawings that are crammed into the Nashbar catalog.

So far I've found the service from both wonderful, though I haven't tried to return anything yet. Performance, which has both West- and East-Coast warehouses, got my phone order to me in four days; Nashbar managed it in five.

The one drawback to mail order is that you can't ask questions the way you can in a bike shop. If either one of these outfits had a good 800 info line, they'd have me hooked for life.

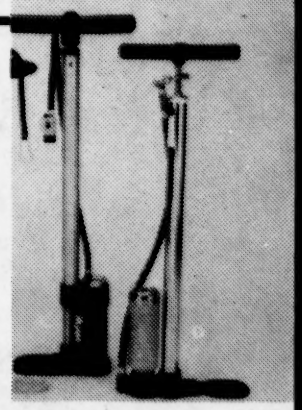
Bike Nashbar
Catalog **free** from:
Bike Nashbar
215 Main Street
New Middletown, OH
44442-0290

Performance Bicycle Shop
Catalog **free** from:
Performance
Bicycle Shop
P. O. Box 2741
Chapel Hill, NC 27514

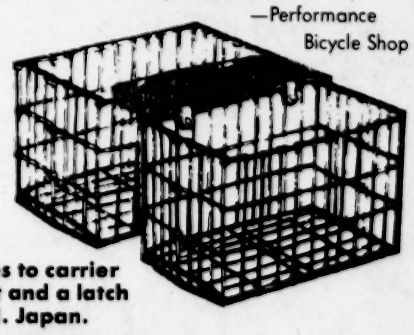


—Bike Nashbar

Rain Rider, durable nylon taffeta with "Super K-Kote" urethane coating. Elastic leg and finger loops. Reflective strip on back. Velcro adjusting neck closure. Hood. **High Visibility Yellow. Sizes: Medium** (up to 5'8") **Large** (over 5'8")
EC-RR-? $33.15



Meidai Floor Pump — $15.95
—Performance Bicycle Shop



Folding bicycle basket, Carbon Steel. Attaches to carrier sides and struts. When not in use, it folds flat and a latch locks it closed. Size: 14" L x 8½" W x 9½" H. Japan.
$15.40 pair **—Bike Nashbar**

Mirrycle

KEVIN KELLY: This spiffy mirror easily attaches to your bike's hand brake cable. It's always there, out of the way. It doesn't vibrate and its surface is just convex enough to reflect the whole scene behind you without distortion. When I ride a bicycle that doesn't have one I feel as handicapped as if driving a car without a rear-view mirror. I think this simple device should be mandatory. It'll protect you from accidents, and protect others from accidents of your making, more than any helmet could. Friends who have one say the same thing.

Mirrycle
Bicycle Mirror
Catalog #MC-BM
$8.15
postpaid from:
Bike Nashbar
215 Main Street
P. O. Box 290
New Middletown, OH
44442-0290

How Professionals Find Real Overseas Jobs

by Will Cantrell *illustrations by James Donnelly*

WRONG:
When many people think of international employment they think you pack a bag, buy a ticket, and find a job at your foreign destination. It rarely works out that way. Procedures for obtaining work permits vary from country to country, but it's generally true that you can't find gainful employment without a permit, and you can't get a permit without an employer's promise of a job: hello, catch-22.

Once, in Buenos Aires, my traveling companions and I ran out of money. I sold most of my expensive camera equipment in the hopes of getting enough for a ticket back to the U.S. so I could find a job. My companions chose instead to remain in Brazil to teach English, without permits, at various cultural institutions and local schools. They saw their teaching duties as a way to interact with the local people and to extend their travel time. No one made enough money to earn a living. That's not my idea of international employment.

RIGHT:
My idea of international employment is to work for an American firm that can protect you from the high inflation rate of some foreign currencies by paying your salary in U.S. dollars, and that will foot the bill for your travel. The work permits, visas, and other red tape are their problems, not yours. Generally, you are expected to sign a contract to work for two years. This is true of foreign companies if they recruit you in the U.S. Most of them will negotiate a one- or two-year contract in U.S. dollars. In either case, in addition to your base salary (which is usually equal to or slightly higher than comparable work stateside), you can expect round-trip air fares for relocating, free housing, cost-of-living allowances, and, with some outfits, a bonus of 10–40 percent of your salary for completing your contract.

You have probably seen the recurring classified ads that say "Earn up to $80,000 per year tax-free while working overseas!" It sounds so good it's hard to believe. Even $20,000 a year tax-free sounds good to me. But, however that hype sounds to you—it's true. The legislation that made this possible is the Economic Recovery Tax Act of 1981, which includes a tax exemption on the first $80,000 (currently) of foreign-earned income. That means you can earn up to $80,000 while working overseas and not pay U.S. income tax on any of it. The main requirement is that you live abroad for at least 330 days during a 12-month period.

The original legislative intent of the Tax Act of 1981 was not to encourage the average American to get out and see the world, but simply to make U.S. companies more competitive in bidding on overseas contracts. Prior to its passage, Americans working overseas were taxed the same as their counterparts working at home, while expatriates from other countries worked free of taxation from their mother country. European, Korean, and Japanese companies were underbidding U.S. companies, which experienced increasing personnel costs and diminishing profit margins on international contracts. Since American expatriates are no longer subject to double taxation (once by the U.S. and then again by the host country), U.S. companies with overseas contracts can pay lower gross salaries without affecting the expatriates' net salaries. Lower personnel costs mean more competitive bids, increasing opportunities for Americans to work overseas.

But don't quit your job and have your yard sale quite yet. You can't assume that because opportunities are increasing everyone has an equal shot at these lucrative overseas jobs.

MOST OVERSEAS contracts are in the area of technical assistance. Companies involved in these contracts are looking for specialized personnel who have pertinent work experience, preferably in an overseas setting. A close second would be very pertinent work experience in the U.S. This relates most directly to engineers, computer specialists, sales and mar-

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Working overseas changed my sense of labor. It gave me firsthand knowledge of how seamless the global economy is, forced different work habits, and made me rich for a few years. I also learned that I could get work anywhere in the world, and how to do so.

Will Cantrell is a professional go-between, connecting people with overseas jobs through his monthly International Employment Hotline *newsletter (P. O. Box 6170, McLean, VA 22106; $26/year [12 issues] — well worth the money if you catch the bug).*

—Kevin Kelly

keting managers, economists, accountants, and agricultural specialists. These professionals are in constant demand for overseas work. Engineers lead the pack — civil, mechanical, electrical, petroleum, industrial, and telecommunications. Computer specialists are rapidly increasing in demand. This group includes programmers, database managers, systems analysts, technical writers, and technicians. Mainframe experience is desirable, especially on the IBM 4341 model.

Recently I sat in on an interview with a 27-year-old payroll accountant working for a construction company who was looking for an overseas job. The interview went well, and he was offered a base salary of $30,000, with a 20 percent bonus for completing the year contract, six weeks of paid vacation every six months with plane fare to London (or equivalent), a free apartment, $340 monthly food allowance, a thousand pounds of belongings shipped free, and use of a car. This is a fairly typical package deal.

What are companies looking for? Expertise and sound mental and physical health. They don't want people to collapse over there where it's expensive to move them. I watched a 62-year-old telecommunications engineer land a lucrative overseas job in three months by stressing his hobby of flying and his annual passing of the pilot's physical exam.

Here's what to do if you are an executive, technician, or engineer looking for the rewards and challenges of overseas work: Send your resume with a brief cover letter to **SHS International**, 8320 Old Courthouse Road, Suite 305A, Vienna, Virginia 22180. SHS is a reputable employment agency that has a steady flow of job orders from both U.S. employers with international operations and foreign employers. They have never charged an applicant for their services.

HEALTH CARE management is a growing area of overseas opportunity largely due to the vast number of clinics and hospitals recently built or scheduled to be built in the Middle East. Openings exist for a wide variety of hospital personnel, from physicians to heating/air conditioning engineers. Unlike other professions practiced in Muslim countries, women are well accepted in the health-care field. Female applicants for physician and nursing openings are given consideration equal to their male colleagues. For positons like an obstetrician/gynecologist or a head nurse, female applicants are usually preferred.

Physicans are in a unique position to benefit from working overseas. They can take advantage of the $80,000-per-year exemption and they don't have to pay for medical malpractice insurance, an expensive fact of practicing in the U.S.

One woman I know renewed her two-year contract as a cardiac technician in Saudi Arabia because she had a healthy respect for the culture, adjusted well, and so in turn was appreciated, and had saved up a lot of money. I can think of several companies right now who are desperately crying for biomedical technicians. Those positions would, for instance, pay about $30,000 in base salary and supply free housing and use of a car on a two-year contract.

Health care professionals should send resumes to **International Health Resources,** 421 King Street, Suite T301, Alexandria, Virginia 22314. International Health Resources works exclusively with companies who manage and staff overseas hospitals. Their openings typically range from medical supply warehouse supervisors to senior-level hospital administrators. They do not charge applicants.

The method of application is the same for both agencies mentioned here. Just send a brief cover letter with your resume. Save your money and avoid telephone calls. Every recruiter has to have your resume in front of him before he can discuss your overseas potential. Legitimate employment agencies are staffed by seasoned placement professionals who work for employers as an "out of house" personnel department. They are paid by the employer, not by the job seeker. And they will usually

be very honest about whether they can help or not.

EDUCATION IS another active field for overseas jobs. Opportunities regularly exist for professors, elementary, secondary, and special education teachers, English language instructors, vocational instructors, librarians, administrators, coaches, and counselors. College teaching positions generally require a Ph.D. or at least a Master's degree. Most other teaching positions require only a teaching certificate and two years of teaching experience. Contracts vary in duration from six months to two years.

If you can't relate to any of these specialized occupations, you're not locked out of the international job market. You'll just have to be a little more aggressive in your job search.

Whether you're a legal secretary, a college student, or a Ph.D., I urge you to explore overseas opportunities offered through the various U.S. government agencies listed at the end of this article. The U.S. government hires more people for overseas work than both U.S. private companies and nonprofit organizations combined. Various employment programs are sponsored by every major U.S. government agency. There are internships for college students, entry-level openings for both degreed and non-degreed applicants, and mid-career opportunities. Send a letter which states your occupation and request for em-

"Earn up to $80,000 per year tax-free while working overseas!" However that hype sounds to you — it's true.

ployment information to the government agency of your choice.

One drawback to working overseas for the government is that employees do not qualify for the $80,000 tax exemption. However, overseas benefits, like free housing or a non-taxable cost-of-living allowance, still make government work financially attractive.

GENERALISTS should stay clear of employment agencies altogether and begin their quest for international employment at the public library.

If you're particularly ambitious, you should curl up with the **Directory of American Firms Operating in Foreign Countries** at your local library. Though far from exciting reading, this directory is a real "who's who" when it comes to describing the activities of American companies overseas — types of business, where they have their offices, and, most important, addresses where you can send a cover letter and resume.

Next, you should consult the **Thomas Register of American Manufacturers,** which lists both domestic and international operations, and the **Directory of U.S. Non-Profit Organizations in Development Assistance Abroad.** All of these directories will provide names and addresses of companies with current overseas activities. Send a letter of inquiry with your resume to the companies which interest you.

International employment seekers should be careful — not every classified ad is as straightforward as it seems. Some government contractors (both U.S. and foreign) are guilty of "body snatching." Though less prevalent now due to better government regulation of the bidding process, it's still practiced. Sometimes as much as a year before a contract is to be awarded, a firm will advertise for personnel to fill positions called for in a contract. The firm then submits the resumes received with their bid to show they have the qualified personnel. The applicant is rarely informed and never offered compensation. If the firm receives the contract they may either draw personnel from the resumes or restructure the jobs offered and recruit new (sometimes cheaper) personnel. If they lose the contract, there's no mention of the procedure to the applicant. Thus a qualified applicant may think he was rejected on his background instead of the inability of the firm to get the job in the first place.

A further caveat applies to foreign employers. The standard expatriate package includes free "housing." In fact, you may be sharing an apartment with another expatriate. Free housing, furniture, transportation, and other benefits may fall short of the pre-employment understanding. Be sure to get the full picture before signing on.

The combination of overseas travel and financial prosperity makes for an attractive proposition. There are a few companies who profit from this appeal and offer little in return. Some employment agencies tell applicants that they have hundreds of overseas openings among their client companies, but to gain access to the clients' overseas listings, the applicant has to pay a "computer service fee" which can be as high as $400. In addition to paying a fee, applicants may be required to sign an agreement promising to pay the agency five to ten percent of their first year's salary as commission.

As a general rule, you should work with an agency if your occupation is among the ones in constant demand that I mentioned earlier. If you are a "generalist," you're much better off doing your own research. Any time an agency requires up-front payment, or a percentage of future salary, think long and hard before reaching into your pocket. ■

GOVERNMENT AGENCIES WITH INTERNATIONAL POSITIONS

Send a letter requesting employment information. Mention the type of position you are interested in and include a resume.

Agency for International Development, Office of Recruitment, Room 111, SA-2, Washington, DC 20520.

U.S. Department of State, Recruitment Division, Box 9317, Rosslyn Station, Arlington, VA 22209-0317.

Department of the Army, U.S. Army Civilian Personnel Center, ATTN: PECC-FSS, Hoffman II Building, 200 Stovall St., Alexandria, VA 22332.

United States Information Agency, Office of Personnel Services, Room 808, 1776 Pennsylvania Ave. NW, Washington, DC 20547.

Department of the Interior, Office of Territorial and International Affairs, Washington, DC 20240.

Department of Defense Dependents Schools, Teacher Recruitment Section, Hoffman Building I, 2461 Eisenhower Ave., Alexandria, VA 22331.

United States Customs Service, Recruitment Division, 1301 Constitution Ave. NW, Washington, DC 20229.

Defense Intelligence Agency, Civilian Personnel Branch, The Pentagon, Washington, DC 20301.

Panama Canal Commission, Office of Personnel Administration, APO Miami, FL 34011.

Department of the Navy, Overseas and Return Placement, 800 North Quincy St., Room 1219, Arlington, VA 22203.

Central Intelligence Agency, Director of Personnel, Washington, DC 20505.

Peace Corps, Office of Administrative Services, 806 Connecticut Ave., NW, Washington, DC 20526.

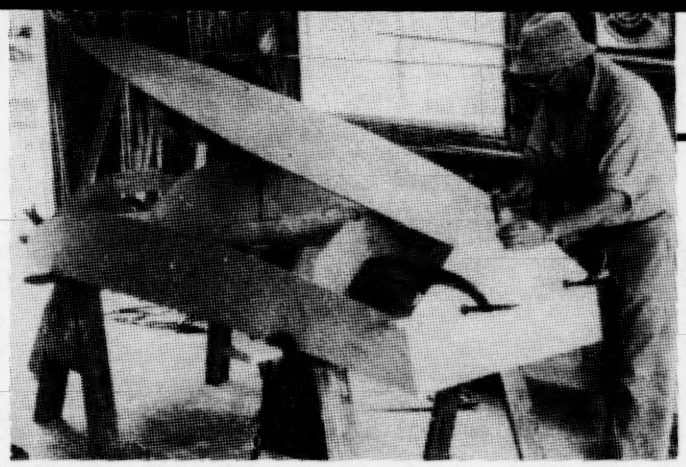
Department of Commerce, ATTN: Foreign Commercial Service Personnel Office, Washington, DC 20230.

Department of Agriculture, Foreign Agricultural Service, Washington, DC 20520.

Department of the Air Force, Central Overseas Rotation and Recruiting Office, The Pentagon, Washington, DC 20330.

Write For This Book:

Invest Yourself (Commission on Voluntary Service and Action, Dept. I, P.O. Box 117, New York, NY 10009.) A comprehensive guide to opportunities with non-profit organizations in both the U.S. and abroad. $6 postpaid.

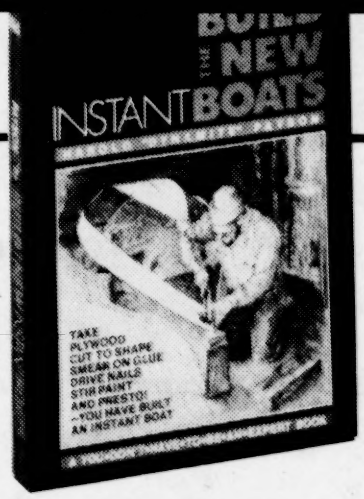


Tacking on the bottom panel. The stern transom is stiffened temporarily with a batten, and an oar holds up the forward end of the bottom panel while the after end is tacked.

Build the New Instant Boats

J. BALDWIN: One of life's true pleasures is the moment when you first step aboard a boat you've made. As with most such victories, there is a price: an enervating time delay between start and launch, a worrisome drain on finance, and a high statistical probability that your project will take so much time that your friends and probably your mate as well will turn to more interesting companionship. Enter "Dynamite" Payson, boatbuilder, and Philip Bolger, naval architect — a resourceful and clever cahoots if there ever was one. These gentlemen would have us believe that you can make a perfectly good boat without lofting, jigs, or exotic techniques, out of lumberyard wood, quickly.

The actual time involved depends upon how much experience you have and which of the 11 designs you choose to attempt. Several can reasonably be completed in a weekend "working at the pace of a Maine native, or a little less if you are used to living in Boston." Cheap, too. For instance, a nifty little sailboat just perfect for beginners and kids can be had for well under $50 plus two days of work. That's about as instant as you're going to get. A reasonably intelligent 12-year-old could probably make it without help. Is all this true? Yup. I can personally vouch that designs from their previous book ***Instant Boats*** *(**NWEC** p. 444) work as claimed.*



SOFT TECH

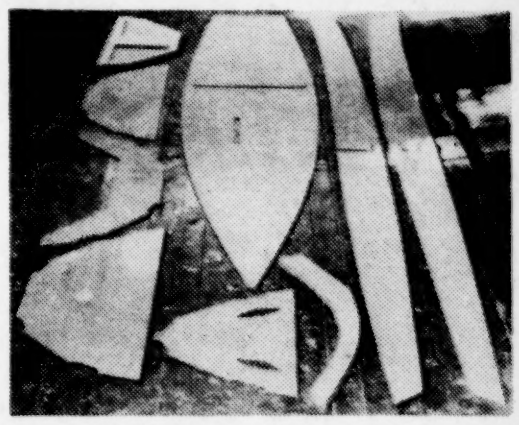
Build the New Instant Boats
Harold Payson
1984; 157 pp.
$22.95
postpaid from:
International Marine Publishing Company
21 Elm Street
Camden, ME 04843
or Whole Earth Access

•

Materials for the Pointy Skiff
Two sheets 1/4-inch 4-by-8-foot AC exterior plywood. One sheet 3/8-inch 4-by-8-foot AC exterior 4-ply plywood for bottom. [If you can't get 4-ply, use 1/2-inch AC exterior 5-ply or, alternatively, use two sheets of 1/4-inch glued together; don't use 3/8-inch marine grade — it costs an arm and a leg.] Three or four clear 12-foot 2 x 4s to make up gunwales, chine logs, drag strips or skids, and framing. . . .

•

Basically, Tack-and-Tape begins with the cutting out of plywood panels, like the planks in plank-on-frame building. These are shaped to fit together, edge to edge, and are temporarily fastened in place with tacks — which, for my choice, are light 18-gauge nails. The outside seams are filled with glass putty. The nails are then easily removed and replaced by long strips of fiberglass tape, which function as the chine logs. So far you've been working bottom up, but once this assembly is stiff enough you turn it right side up and fill and tape the interior seams.



Gypsy's parts, with the exception of the bilge panel, are all cut out. I had to put these parts together to determine the exact bilge panel shape. You won't have to.

How To Build the Gloucester Light Dory

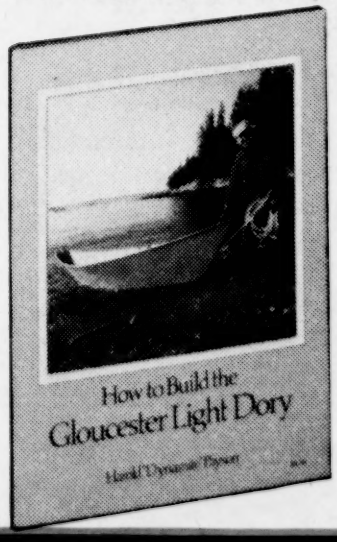
J. BALDWIN: Not quite an "instant" boat, this design makes a worthy spring project for all but the totally inexperienced carpenter. The book renders the job understandable and hassle-resistant, especially if you also buy the enlarged plans. (You could scale up the plan sheets in the book, but that is asking for trouble.) Most of your questions are answered just as you are about to ask them — a characteristic of Mr. Payson's teaching. One thing you won't have any trouble with is motivation. The Gloucester Dory (also known as "Gull") is one of the most pleasurable rowing boats around.

•

I recommend a [jig construction] method that will cost you about $20. This way, you build your molds from 1/2" or 3/4" plywood, particleboard, or any other material that is both stiff and cheap. You can cut all seven molds from two 4x8' sheets, marked and cut full size from the material, with no corners to align and no elements to screw together.

When the molds are cut out, a grid is drawn on the floor, indicating the centerline and station locations. The molds are then set up on those locations, tacked to the floor and braced plumb.

If you have a level wooden floor, let that be your baseline and just plunk the molds down at the proper intervals, making sure they're centered on the centerline. . . .



How To Build the Gloucester Light Dory
Harold "Dynamite" Payson
1982; 30 pp.
$6.95
postpaid from:
WoodenBoat Publications
Naskeag Road
Brooklin, ME 04616
or Whole Earth Access

Gloucester Light Dory Plans
$15 postpaid from:
Harold H. Payson & Company
Pleasant Beach Road
South Thomaston, ME 04858

One Highly Evolved Toolbox Evolves Some More

by J. Baldwin

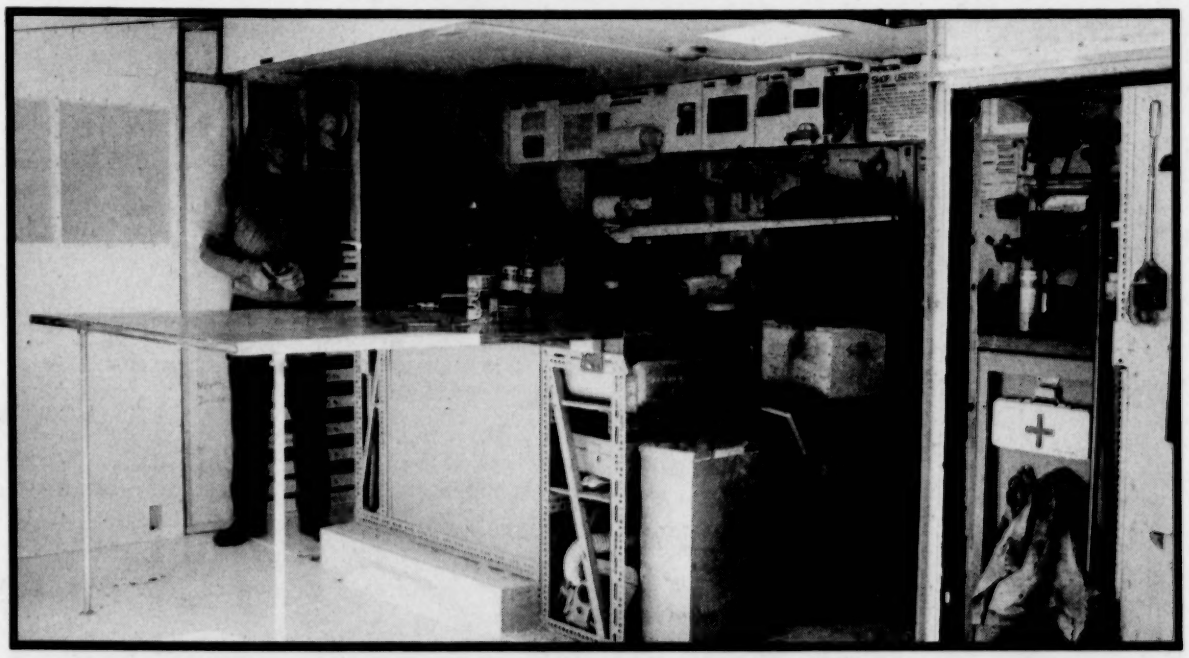
1

On the road, the folded roof panel serves as the outer shell of the truck. The extension doesn't add anything to the original width, but does add about 300 pounds. The folded rig takes up about the same road space as an old Caddy, and drives better than you might expect. With our Airstream trailer home, the Silver Turd, toddling obediently along behind, it gets seven miles per gallon. It's slow though; 45-MPH cruise with the driver vigorously flapping the eight-speed gearlever.

All photos by Kevin Kelly

2

With the roof temporarily braced, the $1^{1}/_{8}$" plywood floor is winched down, legs dangling expectantly. The wall is hinged to the floor with a heavy piano hinge (available at RV supply stores). After the floor is leveled, the wall will be raised, stiffening it.



The extension's table can be omitted if more floor space is needed. We've put a skylight right over it. The flipover table has one rough side, plus a clean Formica side for sewing. It is varnished natural, as are all the benches. The rest of the space, including the floor, is white to maximize light. The exterior is white too, to reduce sun-roast. (The interior never gets hotter than outdoor shade temperature.) The trim is Ford Tractor Gray. The power tools are painted OSHA light green with dark green Art Deco accents in an effort to make them less intimidating to the many innocents who learn to use tools here. All corners, edges, and other potential pocket-rippers have been defanged. Toolboxes are color-coded so go-phers can be instructed "go to the green drawers . . ." Outlets and lights are everywhere. Extinguishers are within arm's reach. (Come to think of it, in a space this small nearly *everything* is within arm's reach.)

The original highly-evolved tool kit was described ten years ago, beginning in CQ #5 and developing further by issue #9. Each of J. Baldwin's most-used, least-known, best-made tools were pictured and introduced. Inferior tools had long before been bred out. By similar selection, this toolbox is now growing legs. —*Kevin Kelly*

THE FIRST TIME you move a workshop can be rather fun. Things get better organized: what has become lost is found again, and accretions are sorted into keepers and dumpers. But if you do it often (I've moved my two-and-a-half tons of tools, on average, more than once a year for 20 years), it's just plain tedious. Too much money gets spent on truck rental and fixing up yet *another* workspace. Moving and reestablishing was becoming my most important product.

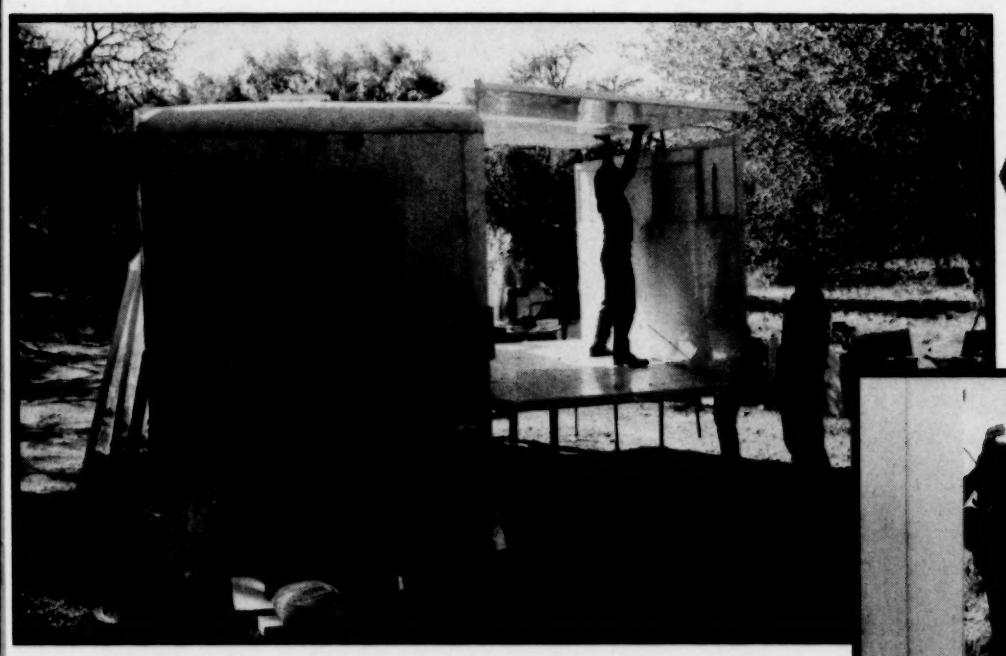
My batch of tools accumulated slowly as I learned to develop the prototypes of my own ideas. (Doing it yourself gives better control and reduces the lying inherent in mere drawings). I soon found that other folks craved to borrow things, so I organized the shop to encourage that. The tools here have built many houses, domes, boats, stage sets, looms, soft-tech prototypes, and, of course, the truck/tool shop conversion itself. Countless repairs have been made on an amusing variety of broken items.

Because many borrowers didn't have the knowledge to use the tools properly, we soon found ourselves teaching. The slightly compulsive orderliness has made teaching easier, and has encouraged tool return. We've lost less than $100 worth over the years. And good neighbors are our best security against theft.

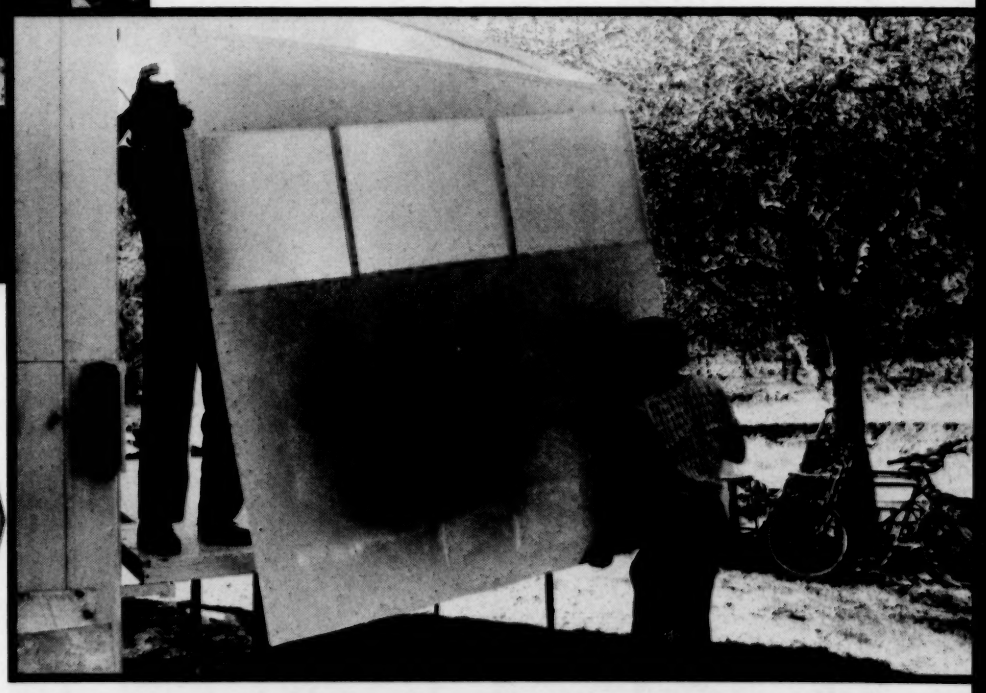
Thus organized, we've been able to offer a versatile shop to an interesting selection of grant-supported groups engaged in various do-good activities. Typically, such groups can't afford to tool up; the grants rarely include capital expenditures. When our friends at the New Alchemy Institute invited us to join the fray, we decided to take the money it would cost to rent a truck to haul our workshop and *buy* a truck that would itself be a shop space when parked.

What you see here is a 1958 2½-ton Chevy ex-bookmobile bought for less than one-tenth the price of a new one. (A new one would have been easier to convert though — old trucks are out-of-square and full of deterioration.) Five years of on-and-off work by us and our friends finally have it fully operational. The basic layout was first mocked up, full-size, in cardboard from refrigerator cartons so we could shuffle "machines" and "cabinets" around with impunity. The mock-ups were marked with their real weight so proper road balance could be figured out easily.

We have moved the truck now five times — maybe 8000 miles. It takes about an hour for two people to fold or unfold it, and it's ready to drive or work. ►



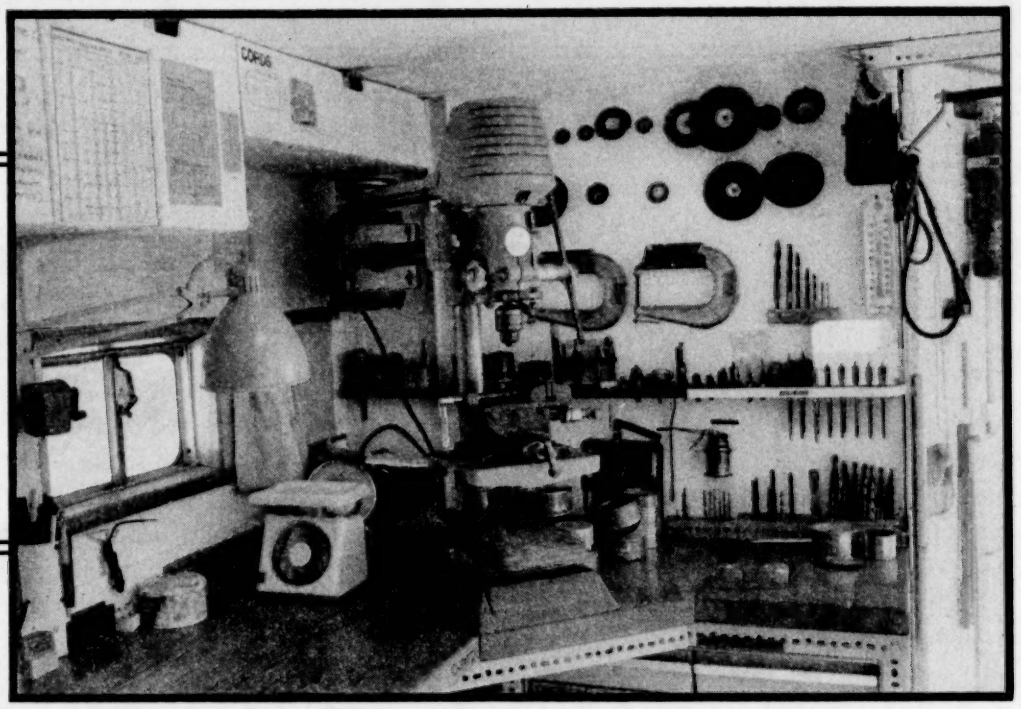
3 The roof is hinged to a 12-foot 2x10 that also supports the length of the truck roof. The erected wall is located by metal dowels fitting into holes in the roof edge. All windows are double-glazed with fiberglass. Three open. Waterproofing is done by overlapping panels like big shingles — more reliable than caulk.

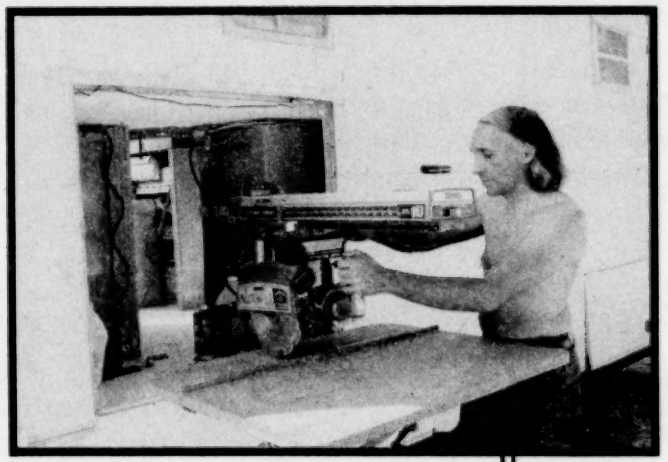


4 The sides of the room extension are not hinged, but are lifted into place from their transport location inside the truck across the workbenches. Panels are fashioned from two-inch blue styrofoam framed with "1x2s" (actually ¾" by a true 2" and hence custom cut). The skin is plain flat — not that awful waffle-tex — trailer aluminum, factory finished in baked white enamel. It's screwed onto the frames every four inches with self-drilling "Tec" screws. This construction weighs about 1¼ pounds per square foot, and is extremely stiff. Insulation value is about R11.

27 GATE FIVE ROAD SAUSALITO CA 94965

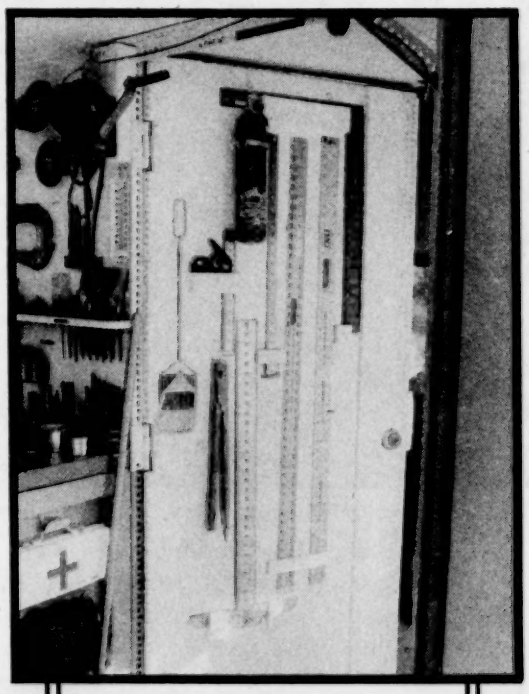
The only bench-mounted power tool is the Rockwell radial drill press, chosen for its versatility. It can drill on its own table, swivel to drill larger items right on the bench, or even extend out over a job on the floor. Long work can be handled by sticking it out the conveniently placed window. Its most often-used accessories adorn the nearby wall.



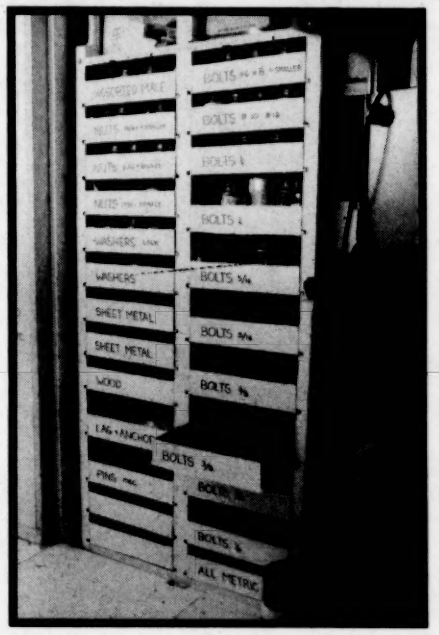


Nobody likes a shrieking, dust-throwing saw indoors, so the Sears 10" radial saw was hinged to flip outdoors from its nest under the workbench inside. A portable stand (not shown) supports long boards.

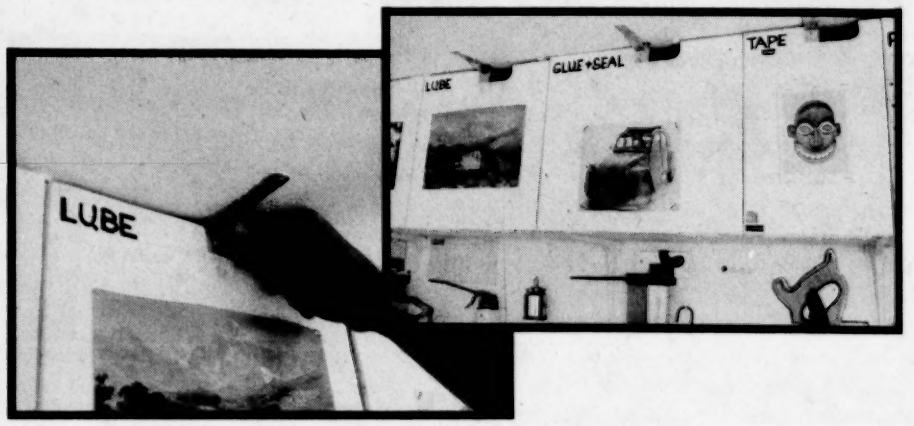
I hate wiggly benches. These are two-inch-thick floorboards from a 100-year-old almond warehouse, bolted directly to the chassis. The Sears toolboxes (bought freight-damaged and rejuvenated with a bit of tin-knocking) and 30-drawer cabinets are recessed to permit the use of clamps along the bench edge. Recessing also deters debris from falling into the drawers. The bench height fits me well, but is a bit high for those under about 5'6" (The ceiling is procrustean to anyone over 6'2".) Most of the interior framing is the perforated steel angle known as Dexion — better than 2x4s in every way.

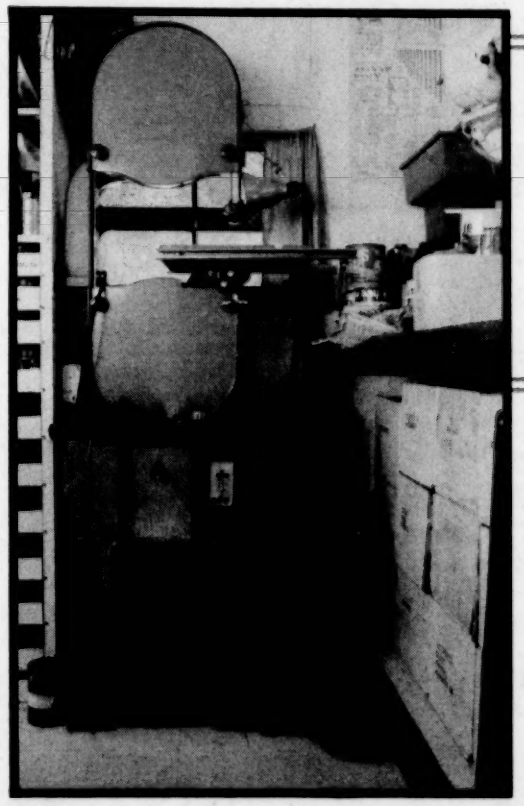


Even the door to the driver's compartment is used for storage. The winch (upper left) operates the extension's floor-folding mechanism.

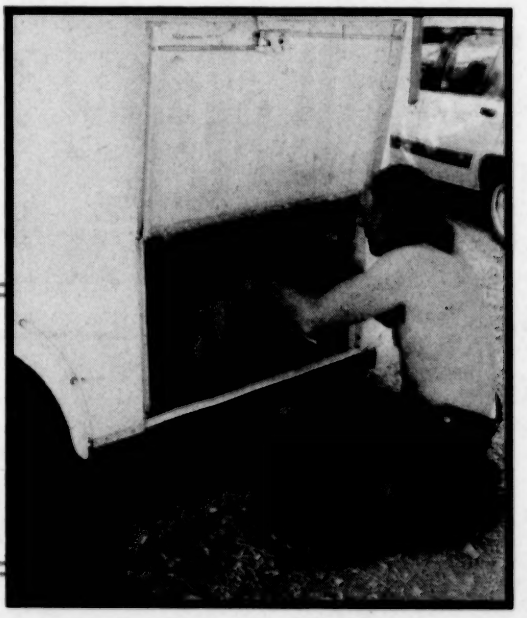


This array of drawers stocks more than 600 different sizes of fasteners, sorted to a fare-thee-well. Compartments under the floor hide hundreds of pounds of larger fasteners, hardware, and scrap metal, balancing the weight of the generator set under the floor opposite. Various cabinets, some along the ceiling, give quick access to glue, lubricants, tapes, and certain much-used tools. (The graphics add class.)





Heavy-duty band saw rolls on casters to the most convenient location. As with everything else aboard the truck, its nest includes anchors to prevent undesirable excursions while truck is on the road. The crates under the bench on the right hold larger stuff such as rubber, leather, and paint.



A 4000-watt slow-speed Onan generator set lives under the floor in a fireproof compartment. It starts from a control panel in the shop. The set-up can and has powered homes during electrical failures.. Truck can accept city power too.

Bench tops are drilled to accept the mounting of a grinder, various vises, our wind generator (shown), and a small sheet metal brake. The main vise (right) is an industrial Wilton mounted on a bench corner for maximum access. All the work surfaces are the same height in order to accommodate large work. The rig is also useable, sans elbow room, with the extension folded.

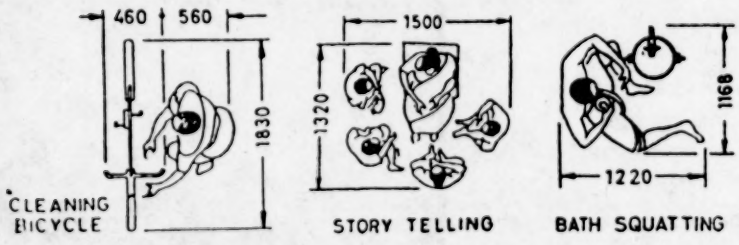
We like being able to move to where the action is and stir things up. Meantime, we do seem to have lots of visitors. They all say the same thing: "Uh, ya mind if we go out to the truck and use your . . . ?" ■

How The Other Half Builds

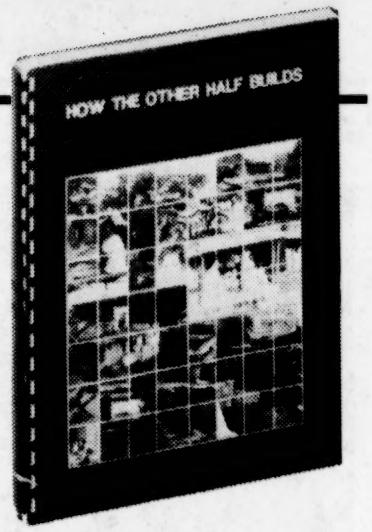
J. BALDWIN: "Existing informal sector housing, often termed slums, represents a solution rather than a problem." This is a radical concept to many theoretical low-income housing planners, but not to its author, Witold Rybczynski; he's well-known for puncturing the ineffectual arguments of self-righteous do-gooders. This inspiring paper reads like an experienced version of ***A Pattern Language*** *that's been seasoned with a dash of* ***Architecture Without Architects*** *— two of our favorite texts. The basic premise is simple: In order to determine what to plan as housing for the poor, find out what they need; to find out what they need, go see what they've done without the aid of planners. You'd think this would go without saying, but planners often are blinded by class differences and elitist educations. This paper should help, and not just in less-developed areas of the world. The idea that the people can handle a lot of their own needs should be a major premise of any democratic society. This paper is the first of a promised series.*

•

The priorities of the slum-dweller are frequently not those of the municipal authorities. Space takes precedence over permanence. A porch may be built before a bathroom; a work place may be more important than a private bedroom. The apparent inversion of values is especially evident in the public spaces.



Recommendation For Dimensions Of Spaces For Human Activities



How The Other Half Builds
Witold Rybczynski et al.
1984; 89 pp.
$6.00
($8.00 Canadian)
postpaid from:
Center for
Minimum Cost Housing
3550 University Street
Montreal, Quebec
H3A 2B1, Canada
or Whole Earth Access

Whereas planned sites and services projects usually incorporate rudimentary, minimal circulation spaces, the public areas of slums are characterized by richness and diversity.

NARROW STREET

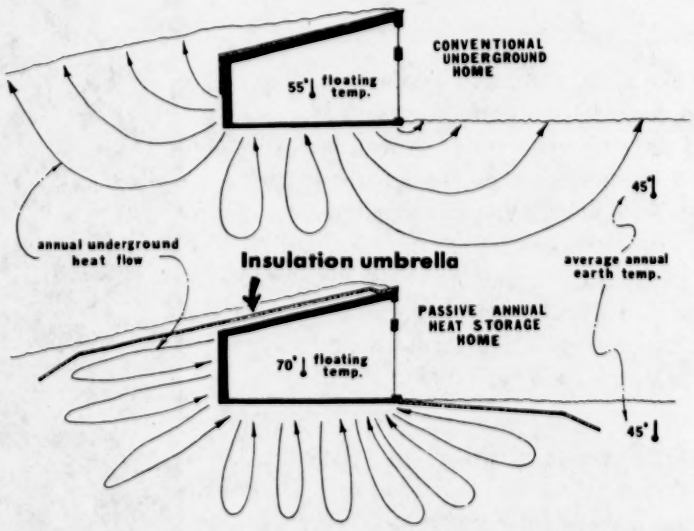
This street has a uniform width of 1.75m. The plinth extensions in front of each dwelling form a continuous band of seats with varying heights. The street is narrow enough so that people sitting on either side can talk. This public sitting area has given the street the character of an outdoor room. Old katras (multiple dwellings around a large courtyard) observed in Old Delhi have a similar character.

Passive Annual Heat Storage

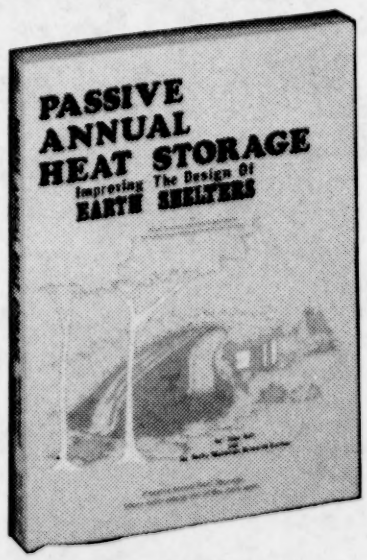
J. BALDWIN: Insulate the Earth? Uh huh. Sure. At first, that's what this book seems to be saying, and it is outrageous. It's against everything we've been taught, but it works. Until now, earth-sheltered ("underground") housing has needed to be carefully waterproofed and insulated or the dampness takes over. The alleged benefit of using the surrounding earth as a heat-giver in winter and cooler in summer just doesn't work out very well if the house is insulated against the earth surrounding it. But what if the earth surrounding the house is kept dry and insulated? That's a radical idea that apparently works. This book is a complete exposition of the principle and practice of storing summer heat for winter use while keeping cool in summer just as you'd hope. Only a few places have been built using these ideas. They work. The author shows us why, and presents clear, field-proven calculations and construction details. He has not hidden his mistakes — a good sign and a good way to teach. If the economies of conventional superinsulated houses have not enticed you, perhaps this idea will. As a principle, it certainly has merit.

•

All summer long, heat from inside the home is absorbed by the earth, keeping the home refreshingly cool. If we can just hang on to that heat until winter . . . it will come back to keep us cozy all year. Then it rains. An inch (2.54 cm) of rain falling on the roof of a 1600 sq. ft. (149 m²) home can amount to over 1000 gallons (3785 l)! That's over THREE TONS of water drenching the ground around your home . . . pouring through your heat storage bin! . . .



The "floating temperature" of a building is the basic average temperature an earth sheltered house will maintain if left unheated and without sunshine for a couple of weeks or so.



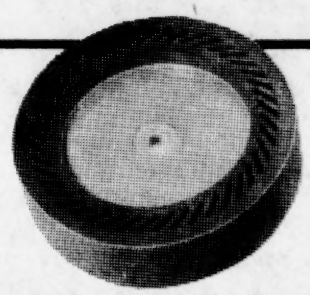
Passive Annual Heat Storage
John Hait
1983; 157 pp.
$15.95
postpaid from:
Rocky Mountain
Research Center
P. O. Box 4694
Missoula, MT 59806
or Whole Earth Access

The Eastwood Company

J. BALDWIN: These folks sell an inspiring assortment of auto body restoration tools, some of which you've probably not seen before. By inspiring, I mean that the tools are so well described that even metalworking illiterati can understand and explore potential uses other than the automotive. A worthy bibliography of instruction books accompanies the tools and materials. I heartily recommend the catalog itself as an education.

[Suggested by Walt Noiseux]

The Eastwood Company
Catalog **free** from:
The Eastwood Company
147 Pennsylvania Ave.
Box 296
Malvern, PA 19355



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No matter how long you buff you can't get out deep scratches. They must be ground out with the proper abrasive. Use *Expander Wheel* to polish (trade term to grind before buff) all types of parts, from trim to bumpers.

Starting with a 220X belt you can level the small bumps and pimples made during dent removal. The wheel eliminates the need for a file because it can cut and polish at the same time. After sanding with this belt in one direction and making the surface uniform, stop the wheel and change to the next finer grit. Always sand at right angles to the direction of the previous grit belt. When the coarser grind lines disappear you change belts again. Never skip a grit range because the grind lines will appear after you buff.

Z8109 . . . . . $28.95

•

Body metal has a memory that makes it want to stay in its damaged shape. To overcome this memory you have to shrink metal that was stretched in a collision.

This new hammer design has a head that is split and actually pulls together upon impact. When you hit the damaged panel the sharp serrations grab the metal and then the head compresses to shrink the metal. The action is automatic with each blow of the hammer. Inside the hammer head there are guides that use the impact energy to draw the head faces together. The jaw or face travel is about 1/16" and springs open the face so it is ready for the next blow. $39.39

A Shrinking Hammer That Makes Metal Flow Smoothly

The Progress Drum Stovepipe Oven

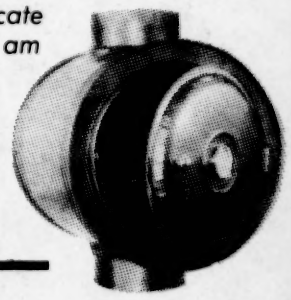
JIM JACQUET: The stovepipe oven is a bit of turn-of-the-century technology that is once again relevant. It has made my homesteading considerably more enjoyable; I can now bake as well as cook with my wood stove.

The oven fits above the stove in place of a section of stovepipe. It is double-walled, and the hot exhaust gases from the stove — BTUs normally lost — surround and bake whatever is put in the oven. There is a thermometer on the oven door which bears close watching until you get the hang of baking. Loading wood into the stove at the wrong moment will cause oven temps to soar. If the oven door is kept open when you are not baking, the unit becomes an efficient heat exchanger.

My only complaint with this product is that the single door hinge seems inadequate; two hinges would be sturdier. The only other stovepipe ovens I have been able to locate (and you have to really look) were in antique shops. I am unaware of any other current manufacturers.

Progress Drum Stovepipe Oven
$65.88

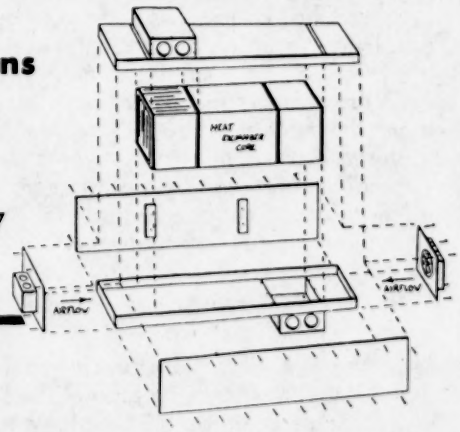
Information **free** from:
Louisville Tin and Stove Company
P. O. Box 1079
Louisville, KY 40201



Heatex Heat Exchanger Plans

J. BALDWIN: Tighten up your house to save fuel, money, and conscience; breathe foul and possibly dangerous air. Air-to-air heat exchangers solve this problem. They heat incoming fresh air by transferring to it the heat from the outgoing air. They also cost plenty. These plans should help all but the most inept make an effective exchanger for less than $100. The design is proven by three years of successful use.

Heatex Heat Exchanger Plans
$11.50
postpaid from:
Heatex
P.O. Box 243
Columbia, CT 06237



Natural Cycle Cooling System

J. BALDWIN: Freeze up a big mess of ice in winter; use it to "air condition" or chill all year. That's practical now for about two-thirds of the U.S. and most of Canada where there are at least 200 hours of sub-freezing weather a year. Costs are about one-tenth those of running conventional equipment, and will "payback" in less than five years. This idea of putting winter temperatures to work can also be used for all sorts of industrial processes requiring cooling. Another variant desalinates saltwater at very low cost. All this is the idea of Theodore Taylor, long known for his experiments with ice ponds and many inventions. So far the technique isn't practical for individual dwellings, but it certainly makes sense for neighborhoods. Why burn fossil fuel to make ice when Nature does it free? I'll bet this concept will soon be considered standard practice.

[Suggested by Rich Kaufman]

Natural Cycle Cooling System
information **free** from:
NOVA, Inc.
7800 Airpark Road
Gaithersburg, MD
20879

NOVA's first Natural Cycle Cooling System for process cooling and air conditioning at a cheese plant in western New York.

The Small Community

STEPHANIE MILLS: People could probably have very interesting times, lifetimes, even, following the precepts laid out in this good old (vintage 1942) book. There are definite ways and means of developing community, it says — certain things are known, and there are rules to play by.

Author Arthur Morgan wrote forthrightly, with a (now) rare sense of assurance about his values. Indeed, his elegant sense of honor seems quite out of place amid the pragmatisms, corruptions, and complications of our time. But his straightforward aspiration to human greatness, democratic practice, fine culture, and high ideals, coupled with the belief that these aspirations can best be fulfilled in the small community, makes resoundingly good sense.

Because the creation of that context is of such great importance, Morgan provides a spare but definitive guidebook. He covers a lot of ground, talking about the appropriate scale of communities, economic self-reliance, skills banks, the importance and liabilities of regional planning, and provision for the community welfare, among many other topics. The only problem is that it all adds up to working in groups, which might tear us away from our VCRs and other toys.

KEVIN KELLY: I would call this book a recipe for civilization.

•

Controlling factors of civilization are not art, business, science, government. These are its fruits. The roots of civilization are elemental traits — good will, neighborliness, fair play, courage, tolerance, open-minded inquiry, patience. A people rich in these qualities will develop a great civilization, with great art, science, industry, government. If the basic qualities fade, then no matter how great the wealth, how brilliant the learning, how polished the culture, that civilization will crumble.

These finer underlying traits, which we recognize as the essence of civilization, are not inborn; neither are they best acquired in rough-and-tumble business or political life. They are learned in the intimate, friendly world of the family and the small community, usually by the age of ten or twelve, and by unconscious imitation, as we learn the mother tongue. Only as such traits have opportunity to grow in the kindly, protective shelter of family and small community, or in other groups where there is intimate acquaintance and mutual confidence, do they become vigorous and mature enough to survive. Unless supported by the surrounding community, the single family is too small a unit to maintain fine standards.

•

Many times in history urban civilizations have broken down, leaving society to rebuild, largely from the village level. Should there be a breakdown in the present social order, the small community is the seed bed from which a new order would have to grow. If it now deteriorates by neglect and by being robbed of its best quality, the new order will not be excellent. Whoever increases the excellence and stability of small communities sets limits to social retrogression.

•

For the preservation and transmission of the fundamentals of civilization, vigorous, wholesome community life is imperative. Unless many people live and work in the intimate relationships of community life, there never can emerge a truly unified nation, or a community of mankind. If I do not love my neighbor whom I know, how can I love the human race, which is but an abstraction? If I have not learned to work with a few people, how can I be effective with many?

•

Where community life is dissolved and the only remaining sense of social identity is with vast societies, such as great nations, serious-minded young people who wish to be socially effective often measure their small powers against national or world movements, and develop a feeling of frustration and futility. On the other hand, where they are members of small communities they have opportunities to deal with problems within their grasp. They can be realists and can be effective within the community, and so can have a feeling of validity denied them when their primary relations are to vast social aggregations.

•

Young people look about them, half-consciously wondering what kind of world it is into which they are born. If they see favoritism and political manipulation, with the best people of the community timidly unwilling to expose themselves by vigorous political activity, the young people of the community will have learned their lesson. Their school textbooks may discuss civic righteousness, but they will know that is only make-believe. The realities are before their eyes. They will be convinced that they live in a world of arbitrariness, favoritism, and special interests, and that they must be like the world they are in. On the other hand, whenever young people see integrity and a business-like attitude in business management, they are likely to decide that the world they live in is like that, and they will act accordingly.

•

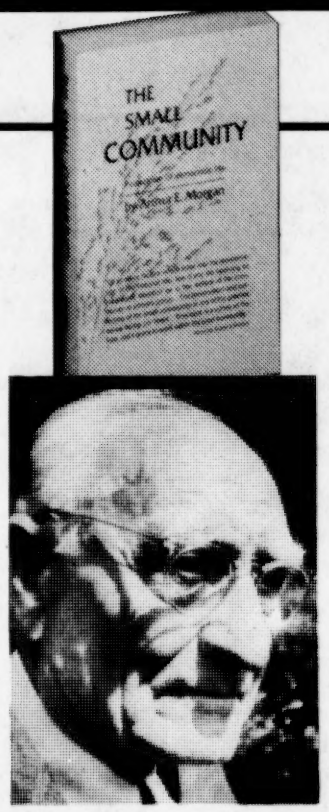
Selfishness nearly always is organized in the community. Unless unselfishness and public interest also can be organized, they can have little chance.

•

The Principle of Economy of Experience. "We must avoid . . . the notion that vocations are distributed in an exclusive way, one and only one to each person. . . . Each individual has of necessity a variety of callings, in each of which he should be intelligently effective. . . No one is just an artist and nothing else, and in so far as one approximates that condition he is so much the less developed human being; he is a kind of monstrosity." Thus wrote John Dewey in his *Democracy and Education*.

We crave many kinds of satisfactions, and often these seem to demand many divergent activities. We want reasonable income, so we perform the day's work. We want companionship, so we join social organizations. We crave beauty, so we have parks and music, and buy ornaments and pictures. We need ethical principles and spiritual life, so we associate with churches or other appropriate organizations. We must have exercise, so we play golf or tennis. . . .

If the idea of unity and economy of experience should prevail, then one undertaking might supply several needs, and it would not be necessary to have so many experiences in order that life might be full and well-proportioned. Life would achieve freedom from confusion and complexity, and would have greater unity and poise, and reserves of health and power.



The Small Community
(Foundations of Democratic Life)
Arthur E. Morgan
1942, 1984; 336 pp.
$11
postpaid from:
Community Service, Incorporated
P.O. Box 243
Yellow Springs, OH 45387
or Whole Earth Access

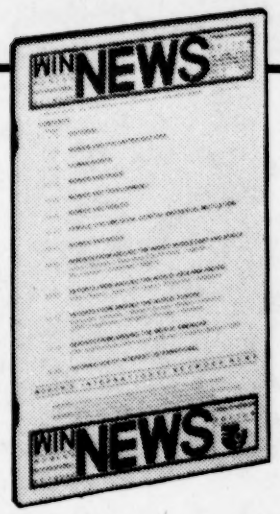
Arthur E. Morgan has done more to articulate the idea of Community than any other American.
—Henry Geiger, MANAS

WIN News

WALT NOISEUX: ***Women's International Network News*** *is published quarterly by Fran Hosken, author of the* ***Hosken Report*** *(on the genital mutilation of women). In addition to providing continuing coverage on the fight against female circumcision,* ***WIN News*** *provides continent-by-continent coverage of issues such as abortion, pornography, and divorce legislation. Since the international aspects of these issues are seldom covered adequately by the U.S. media,* ***WIN News*** *is a valuable resource.*

WIN News *regularly reviews books, films, periodicals, and government reports from throughout the world. Hosken provides the best of U.N. documents relating to women and to development policy (including alternative energy) that I have seen.*

WIN News *will be of interest to anyone concerned with women's issues or with development policies.*



Women's International Network News
Fran P. Hosken, Editor
$20.00/year
(4 issues) from:
WIN News
187 Grant Street
Lexington, MA 02173

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In August 1982, President Daniel arap Moi of Kenya, the successor to President-for-life Jomo Kenyatta, prohibited female circumcision in Kenya. This astonishing edict was made in a speech given in an area of Kenya where the deaths of 11 girls were reported in the newspapers the week before — resulting from the traditional circumcisions which are done at that time of the year. . . . It is estimated that two-thirds to three-quarters of the female children of Kenya are still mutilated today; it is practiced by almost all ethnic groups in Kenya except the LUO (14%) who live on Lake Victoria.

•

Recently, the Moroccan government has made an effort to broaden the scope of vocational training opportunities for women. An example is a US-funded project being carried out in Casablanca and Fez by the Moroccan Bureau of Vocational Education and Job Development (OFPPT) and the American-Mideast Education and Training Service (Amideast).

In the initial phase of the pilot project, classes at OFPPT centres were opened exclusively for women in electricity, mechanical drawing, electronics, accounting and construction drafting. . . . Student enrollment has grown from 2,000 in 1974 to 13,000 in 1982, an annual rate of increase of over 90 percent. But women have effectively been excluded from all branches of training except commercial studies, where they predominate. Apart from administrators' objections, it was said that women lacked interest in trying other trades. But in an effort to attract women to the new classes offered by the project, the OFPPT altered the recruitment posters distributed to high schools . . . As a result, women applied in the hundreds for their 75 places open to them that year.

•

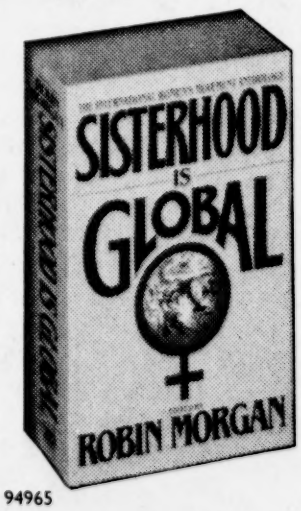
Before World War II, women were a minority (36 percent) among Soviet professionals. Now the situation is the inverse. Of all those with a professional education in 1980, 59 percent were women and only 41 percent men. In 1978, 26 percent of Leningrad brides said yes to less-educated grooms, while two decades ago only 5 percent did. In the near future, women's educational superiority will be even greater: the proportion of women students in universities crossed the 50 percent mark in 1976 and is now at 52 percent. In technical colleges it is even higher — 57 percent.

Sisterhood is Global

STEPHANIE MILLS: This book is almost overpowering. A formidable (838 pp.) anthology cum almanac, it presents articles on the conditions of women's lives and their movements as understood by contributors from seventy different countries. The contributors employ a variety of genres — from rather dry sociological prose, to colloquial accounts of organizing experiences, to impassioned pleas for support of revolutionary movements, to folktales, to bitterly funny political nonsatire.

All these are prefaced by entries sketching the demography, government, economy, "gynography," "herstory," and mythography of the countries represented. What emerges is a picture of ubiquitous injustice being met by widespread awakening and activism. Robin Morgan's powerful introduction brilliantly focuses on the implications of global feminism, a vision of startling possibility.

Sisterhood is Global
Robin Morgan, Editor
1984; 838 pp.
$13.95
postpaid from:
Doubleday and Company
Direct Mail Order
501 Franklin Avenue
Garden City, NY 11530
or Whole Earth Access



27 GATE FIVE ROAD SAUSALITO CA 94965

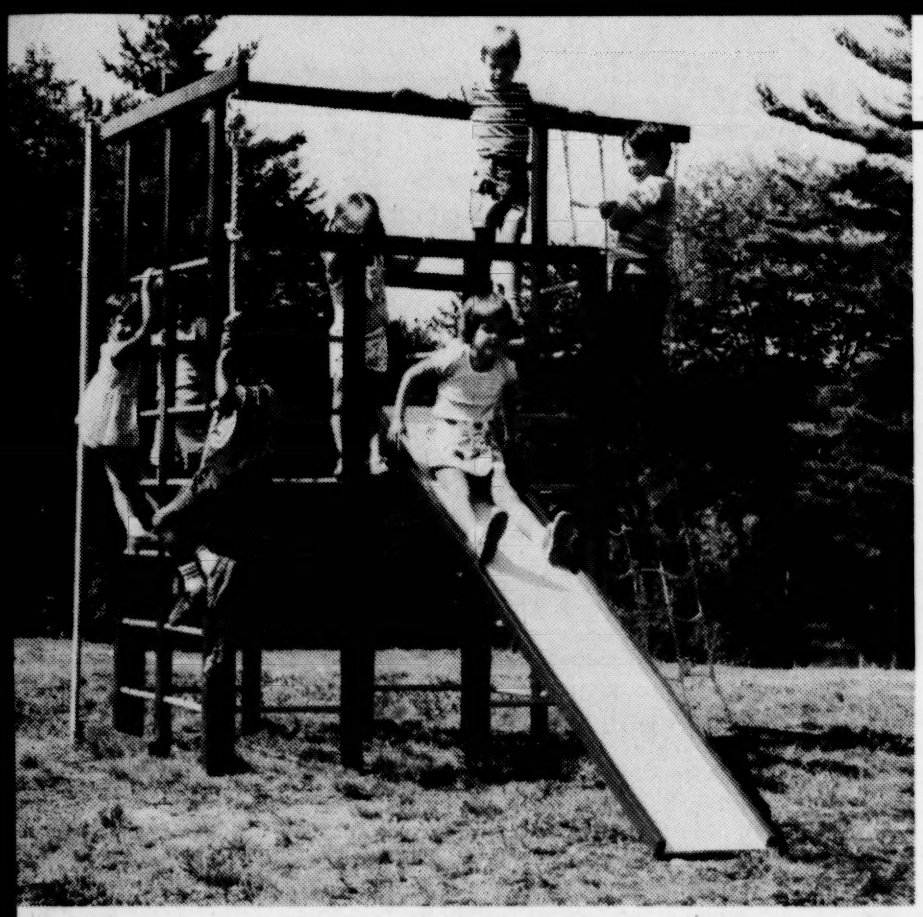
•

How many women know it is now possible for a women's group *or an individual woman* to register a human rights violation complaint (which can include battery, rape, job discrimination, deleterious "cultural" practices, etc.) directly by confidential or standard letter to the Secretariat of the Commission on the Status of Women (in care of the Women's Unit, United Nations Center, Vienna, Austria) — and that every complaint requires a formal investigation by the Commission, requiring in turn a response from the national government involved?

We must — and can — demystify the channels to power, in order to travel them.

•

Rural Nepalese women not only contribute more time but also generate more income than men for the total household economy. When only outside income from wages, salaries, or trading profits is considered we find that men contribute 72 percent of the household income while women and children contribute 27 percent and one percent, respectively. However, outside earnings accounted for only 18.6 percent of the total income of the households in our sample. *The remaining 81.4 percent of the household income came from home-production. . . .* It is not too surprising to find that women are responsible for 86 percent of the time-input into domestic activities. Housework, after all, is traditionally viewed as a female task. Nor is it particularly startling to find that women's input accounts for 74 percent of the time spent in expanded economic activities. What is significant, however, is the fact that women do all this in addition to contributing 49 percent of the total time-input to conventional economic activities.



Child Life Play Specialties, Inc.

ANDREA SHARP: Beautiful, institutional-quality outdoor play equipment for children! The whole gamut from baby swings to a fantastic "super chief" swing set with enough stuff on it to be a playground in itself. They have a 60-day return policy and a good warranty. Spare parts and hardware are available. The stuff isn't cheap, but it looks like you get what you pay for.

[Suggested by Charlie Teswood]

Child Life Play Specialties
Catalog **free** from:

Child Life Play Specialties, Inc.
55 Whitney Street
Holliston, MA 01746

•

FIREMAN'S GYM COMPLETE with frame in Kit form (truck 200 lb.) $315.00
All structural frames are constructed of pressure treated (Wolmanized) Douglas fir, western hemlock and Sitka spruce or Alaskan yellow cedar. The optional 8 ft. Slide can be attached to any of the four sides. It has a durable plastic bonded surface that is cool in the sun.

Kits are sold unpainted but always include a proper supply of lead free paint for customer application. The special non-slip surface on our ladder rungs gives a secure and safe climbing grip.

Creative Publications

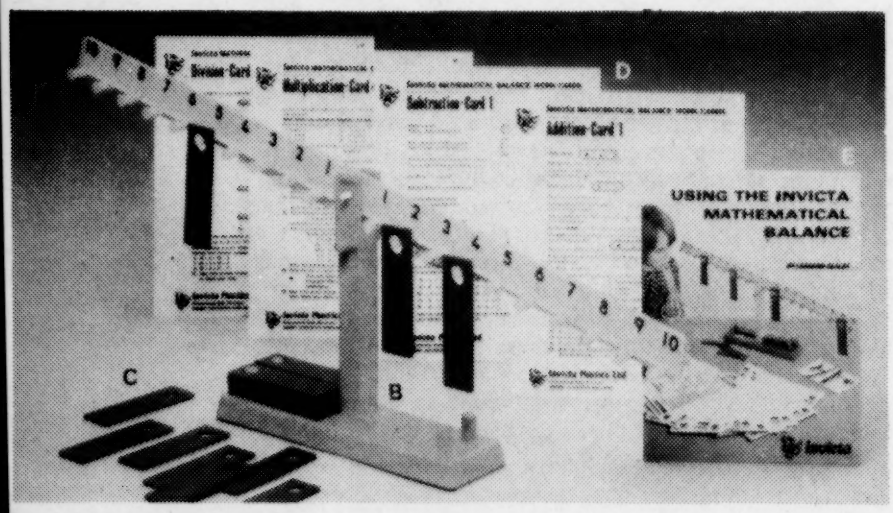
JEANNE FINAN: This catalog is intended for math and science teachers but is a fantastic resource for home-schoolers and a really interesting catalog for others, too. They have a unique selection of books, workbooks, software, and materials — all of very high quality. I've used their materials with my own children and also in a month-long exhibit at a children's museum where over 1200 children played with them. The children loved everything we ordered from CREATIVE PUBLICATIONS, notably the Pattern Blocks and the Rubber Stamps. The nicest thing about CP is that they seem to believe that children (yes, even children) deserve nice graphics, beautiful photographs, and quality materials. This catalog is a gem!

Creative Publications
Catalog **free** from:

Creative Publications
5005 West 110th Street
Oak Lawn, IL 60453

•

Math Balance with Masses. Sturdy 8½" high balance allows the child to deal with abstract mathematical ideas by manipulating a physical model. Encourages exploration of the fundamental operations, solves simple algebraic equations, and demonstrates the commutative and associative laws. Beam is numbered from 1 to 10 on each side of the center. Reverse side of beam is blank. Self-adhesive labels are supplied to mark other values (e.g., fractions, money, length). Complete with 20 uniform, plastic masses one decimeter long, weighing 10 grams each. 33100. $19.95.



Children's Recordings

ANDREA SHARP: Here is a great compendium of children's tapes and records — all with brief descriptions to help you choose. The two women who compiled this catalog are children's librarians and their love of the task shows. Any parent, grandparent, or friend to children will want this around for gift giving — and for guaranteed dynamite gifts at that. All the classics are here, along with harder to find items (they will also search out obscure items for you), and kids really go for this stuff — over and over again. A pair of headphones might not be a bad idea either. I've found nothing beats a Sony Walkman on long car and plane trips, especially when loaded with tapes from a source like this.

Children's Recordings
Catalog **free** from:

Children's Recordings
P.O. Box 1343
Eugene, OR 97440

•

Wizard of Oz — From the original soundtrack, these musical and dramatic selections continue to bewitch one and all. It bridges generations . . . immortal.
LP or Cassette $8.98.

•

Slim Goodbody: The Inside Story — "Who would have thought that a whole record about the human body could be this much fun?" PARENTS' CHOICE 1981 award winner. Musical anatomy with lots of laughs.
LP or Cassette $8.98.

•

Birds, Beasts, Bugs and Little Fishes — Old Grey Mare; Alligator, Hedgehog; I Know an Old Lady; Frog Went A-Courtin'; I Had a Rooster and more. Pete Seeger's homespun renditions of 15 old favorites.
LP or Cassette $9.98.

HearthSong

ANDREA SHARP: This catalog is a potpourri — with an index! — written and conceived in the "Whole Earth" style and carrying definitely unusual items. On the first page they have an all-cotton hooded cape that I know my daughter would love to play with, and included in their thoroughly reviewed books for parents and children is Jerry Mander's ***Elimination of Television****, so you know this is not just a suburban mailbox stuffer. It is billed as a "catalog for families" and in addition to the fascinating roster of books, offers handmade dolls, children's craft materials, Weleda brand toiletry products, candles and various other odds and ends.*

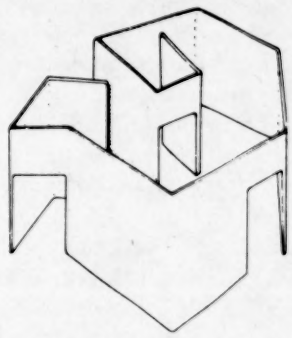
•

The FOLDING FELT HOUSE for Halfpenny dolls is almost as portable (though you can't put it in your pocket) and equally versatile as the dolls themselves. The folding house is a series of panels, some of which include doors. It can be folded in various ways to make one or two rooms or other enclosed spaces. The folding house is made of heavy cardboard stitched into a felt casing; 5" high by 43" long.

•

What is FAIRY FLEECE? It's soft, cleaned and carded sheep's wool, hand-dyed in a wide variety of shades. Children know what to do with it. They twist, tease and pull it into the forms of their imaginations and use it

HearthSong
(A Catalog for Families)
free from:
HearthSong
P.O. Box B
Sebastopol, CA 95472



along with their harder, less giving wooden toys. They form it into trees, brush, clouds, fog, rivers and veils. We offer the fleece in 1/4 lb. packages, each containing six colors. Rainbow Fleece contains pastel shades of the six rainbow colors. Woodland Fleece contains six earthy colors: forest and moss greens, gold and browns.
2RFF Rainbow Fairy Fleece $9.50
2WFF Woodland Fairy Fleece $9.50

My Child's Destiny

ANDREA SHARP: Yuppie image aside, this is a selective and informative catalog catering to all aspects of the child — from computer programs to party dresses. This organization is devoted to quality, not quantity, and if you don't have time to search out the good stuff locally, here is a place to shop. We haven't seen any other children's store reviewing and marketing educational software — they have a separate catalog for this. Although attractive, the clothing is neither practical nor any bargain, but the toys are well chosen and reasonably priced.

•

Our maple wood blocks are guaranteed not to break or splinter for 100 years . . . that's three generations! Blocks help children learn to balance and to see their ideas constructed before their eyes into concrete structures. Natural finish, 8 shapes, 71 pieces. $31.95

•

What frustrates children with safety scissors is not that they are "young" scissors but that most of the time they

My Child's Destiny
Catalog **$2** from:
My Child's Destiny
P. O. Box 7349
San Francisco, CA 94120

don't cut! These do cut . . . smoothly, easily and consistently. Safely rounded, they are lightweight and both left as well as right handed little people can use them without frustration! Safety Scissors #A148-5001 $1.50

Growing Child

KEVIN KELLY: This intelligent new-parent newsletter is delivered on a brilliantly appropriate schedule: monthly, each issue arrives matched to your child's general development. When your child is five months old you get an issue devoted to the problems of five-month-ers, when he or she is three you get material that discusses three-year-olds, and so on every month up to six years.

CAROL VAN STRUM: Valuable, concrete advice (just the kind a sensitive grandma might give) is provided at the right time every step. There are common-sense suggestions for preventing or correcting such problems as temper or overdependence, and sound advice on modifying both the child's and the parent's behavior. An additional newsletter, ***Growing Parent****, is equally fine for its insights into the complexities, woes, and unsung rewards of parenting. Available from the same address.*

[Suggested by Joan Akin]

•

Whenever the baby's eyes are open, his focus adjusts itself to eight inches and does not vary. This means that anything closer or farther away than eight inches will be blurred and indistinct.

All of this may seem strange to an adult who is used to seeing many things clearly at many different distances; but for the newborn, it is nature's plan to give his vision a good start in the vital early development, because it happens that eight inches is also the distance of the infant's outstretched hand! . . .

It works like this: In a world where most objects are far away and out of reach, the infant's hand, first of all, provides a stable and dependable object which he can look at. Secondly, one eye and then both eyes must learn to stabilize upon a point or object, and this is the hand. This is important because control of eye movement and two-eyed vision with depth perception are necessary later on for the learning process and the management of objects. — One month, *Growing Child*

Growing Child
Nancy Kleckner, Editor
$15.95/year
(12 issues) from:
Growing Child
22 N. Second Street
Lafayette, IN 47902

Over the Hill . . . But Not Out to Lunch!

STEWART BRAND: For fifteen years or so now, Lloyd Kahn has specialized in putting out a few good books. ***Shelter, Shelter II, Stretching****, etc. These days he has a book in progress about people over 35 who are keeping themselves in great physical shape. For the time being it's accumulating as a fascinating somewhat-periodical conducting interviews with exemplary, often odd, characters. I've had it with reading interviews, but I found myself studying these — for the people, for their experiences, for their tips. Two lady triathlon athletes, a mountain bike pioneer, a fatty born again through the Pritikin diet, an aerobics instructor, and an early surfer who now gets his thrills at 15,000 feet in a hang glider.*

•

In Paris I lost weight because I was really enthralled with life. And I think that's one of the things that sports has given me — not that it's given me a reason to live, but I think for most people, you've gotta have your job and very few people have an opportunity to be singly employed or to direct themselves with their life, and sports is a single direction.

Over the Hill . . . But Not Out to Lunch!
Lloyd Kahn
$2/issue
from:
Shelter Publications, Inc.
P.O. Box 279
Bolinas, CA 94924

Astrodent

STEWART BRAND: I have one of those mouths that require twice-a-year visits to the dentist for cleaning, each session featuring fountains of blood, much character-building pain, and stern lectures threatening doom to my gums if I don't shape up and start flossing every half hour or so. I cringe and pretend to agree and show up six months later with four pounds of plaque in my head. That was before Astrodent.

I still go every six months for cleaning, but it's a far more civilized experience now. The only difference is that instead of brushing my teeth in the morning I now have at them with the two tips on this gum-tooth machine. The pointy tip massages gums, all along the edges and into the crannies between teeth. The cupped tip takes a tiny dollop of toothpaste or powder and expertly polishes the teeth, also massaging gums on the way. That's it. Every couple months I need a new AA battery. Big improvement.

Astrodent
(includes case,
6 attachments, battery)
$16.50
postpaid from:
Planetree Health
Resource Center
2040 Webster Street
San Francisco, CA 94115

The Essential Guide to Nonprescription Drugs.

JOE GRADEON: The most complete popular encyclopedia of over-the-counter (OTC) drugs. It covers the use of OTC drugs for a wide variety of symptoms — everything from acne medications, antacids, and antiperspirants to worm medications and yeast killers for feminine itching.

There are no simplified hot tips in this book — you can expect to spend some time making your selections. But if you're willing to do so, you'll learn a great deal about your problem in the process and will also be able to choose the most effective OTC drugs for the majority of ailments you and your family may encounter.

[Suggested by Tom Ferguson, M.D.]

•

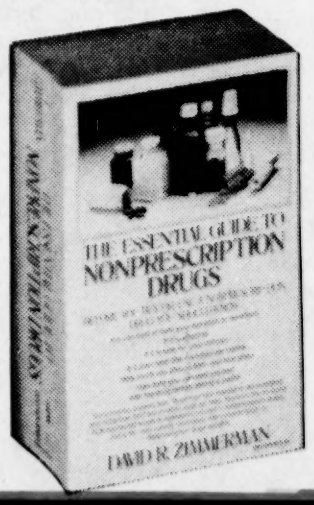
Only very weak diuretics are formulated into over-the-counter preparations. Water pills do alter key physiologic functions that are intimately tied to water levels, which explains why almost all diuretics are prescription drugs, for use only under medical supervision.

Premenstrual syndrome is the *only* approved use for nonprescription diuretics. If you are using over-the-counter water pills for any other purpose, you should stop using them and see a doctor. Nonprescription diuretics are safe for treating premenstrual syndrome, the Panel says, "because [it] is self-diagnosable, limited in duration, occurs intermittently, disappears abruptly at the onset of the menstrual flow—and is not a sign of a potentially serious underlying disorder."

•

Acne Medications
The combination of sulfur 8 percent + resorcinol 2 percent and the equivalent combination of sulfur 8 percent + resorcinol monoacetate 3 percent. Although the origins and mechanisms of these combinations remain unclear, the resorcinol seems to enhance sulfur's ability to clear up acne. Resorcinol by itself is not effective. Several studies show that sulfur + resorcinol is as effective as sulfur alone, and one shows that the combination is more effective than pure sulfur against some acne lesions. Thus the FDA Panel evaluates these combinations as safe and effective, but warns that they should be applied "to affected areas only." It adds: "Do not use on broken skin or apply to large areas of the body."

The Essential Guide to Nonprescription Drugs.
David R. Zimmerman
1983; 926 pp.
$12.03
postpaid from:
Harper & Row Publishers
2350 Virginia Avenue
Hagerstown, MD 21740
or Whole Earth Access



Safety and Effectiveness: Antihistamines in Over-the-Counter Cold, Cough, and Allergy Medications

Active Ingredient	*Panel's Assessment*
brompheniramine maleate	safe and effective
chlorpheniramine maleate	safe and effective
diphenhydramine hydrochloride	not safe*
doxylamine succinate	safe and effective
methapyrilene preparations: methapyrilene fumarate and methapyrilene hydrochloride	not safe*
phenindamine tartrate	safe and effective
pheniramine maleate	safe and effective
phenyltoloxamine citrate	safe but not proved effective
pyrilamine maleate	safe and effective
thenyldiamine hydrochloride	safe but not proved effective
thonzylamine hydrochloride	safe and effective

*FDA assessments.

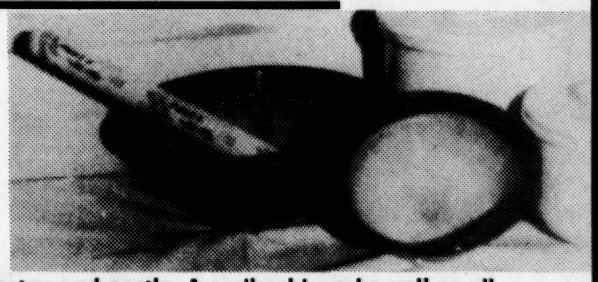
Mountain Ark Trading Company

JEFFREY BONAR: The food in this catalog of natural and macrobiotic foods is the perfect antidote to ten hours of working in front of a VDT screen. You have no idea how plump, well-formed, and tasty brown rice can be until you've tried Chico San's Macrobiotic Quality Short Grain Brown Rice. I'm not exaggerating, you really have to try some side by side with the typical food co-op variety. The miso section includes 28 varieties! The catalog is beautiful and well written. Their mail order service is easy to use, quick, and accurate (no errors, everything well packed).

•

Atlantic Dulse — Always the most popular and best known of European and American sea vegetables. Still popular from Iceland to Nova Scotia (where it is even eaten in place of salty chips with beer). Dulse's flavor livens up soups, salads, and entrees; a tasty snack toasted or raw. One old recipe combines it with turnips and fresh mustard in a delicious vegetable stew.
16510 4 oz., $2.89

Mountain Ark Trading Company
Catalog **free** from:
Mountain Ark
Trading Company
120 South East Street
Fayetteville, AR 72701



Suribachi mortar and pestle. A suribachi works well on all types of foods, wet like rice, or dry like herbs, and oily like seeds and nuts.

•

Unpasteurized Miso — All our misos are repacked from bulk tubs. They are not pasteurized to insure that the living microorganism enzymes remain fully active. The distinctive white mold that sometimes grows on unpasteurized miso is totally harmless, and is your assurance that the miso is still fully active. This mold, if it appears, may be removed or may be stirred back into the miso, and the miso can then be used in confidence. To avoid mold growth, unpasteurized miso can be stored in a cool place (45°-60° F) or kept refrigerated.

Kurtzman's Mushroom Specialties

TED SCHULTZ: When he's not pursuing his own mushroom cultivation experiments, Dr. Ralph Kurtzman operates this modest mail-order business. He supplies a complete line of low-cost equipment, books, and self-written how-to pamphlets on the various cultivated mushrooms. He also offers the only cost-effective growing kits for oyster mushrooms, and a fairly complete line of spawn ("seed") for many cultivated species. Dr. Kurtzman publishes a newsletter for mushroom-growing enthusiasts, appropriately titled ***The Spawn.***

Kurtzman's Mushroom Specialties
Catalog **free**

The Spawn
Dr. Ralph Kurtzman, Editor

$5/year (5 issues)
Both from:
Kurtzman's Mushroom Specialties
815 South Harbor Way
Richmond, CA 94804

The Mushroom Cultivator

TED SCHULTZ: This is simply the best single manual ever published about each phase of home mushroom cultivation. Other books cover some of the more essential aspects of mushroom growing, like compost preparation, growing room construction, and maintenance of environmental conditions for optimum yield, but ***The Mushroom Cultivator*** *takes you further, into a deeper understanding of mushroom life. It includes a full course on the intricacies of "kitchen microbiology," essential for isolating and maintaining your own strains of mushroom cultures and for turning them into spawn — the "seed" for your mushroom garden. You'll appreciate the chapters on common microbial "weeds" and insect pests, and how to deal with them. Unlike many other writers on the subject, the authors are down on insecticides and fungicides.*

Whether you want to grow agaricus, the common grocery store mushroom, or exotica like shiitake, psilocybe, or the oyster mushroom, either as a weekend hobbyist or a small-business farmer, this is the manual you want.

•

The development of casings based on peat moss has practically eliminated the use of soil in mushroom culture. Peat is highly decomposed plant matter and has a pH in the 3.5-4.5 range. Since this acidic condition precludes many contaminants from colonizing it as a substrate, peat is considered to be fairly "clean" starting material. Peat-based casings rarely require pasteurization. But because peat is too acidic for most mushrooms, the addition of some form of calcium buffering agent like limestone is essential. "Liming" also causes the aggregation of the peat particles, giving peat a structure similar to a clay/loam soil. A coarse fibrous peat is preferred because it holds its structure better than a fine peat. In essence, the properties of sphagnum peat conform to all the guidelines of a good casing layer.

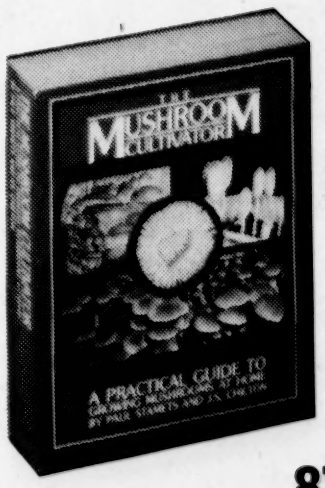
•

In general, too much fresh air is preferable to insufficient air supply. However, fresh air displaces the existing room air which is then exhausted from the room. Unless this fresh air is preconditioned to meet the requirements of the species, one will be constantly disrupting the growing environment and thereby overworking the heating and humidification systems. For this reason the air circulation system should be designed to recirculate the room air. This is accomplished by a mixing box with an adjustable damper that proportions fresh and circulated air. In this regard CO_2-tolerant species give the grower a distinct advantage in maintaining the correct environment because they need less fresh air for growth.

Wild strain of Agaricus brunnescens fruiting in bag of cased compost.

The Mushroom Cultivator
(A Practical Guide to Growing Mushrooms at Home)
Paul Stamets
and J.S. Chilton
1983; 431 pp.

$19.95
postpaid from:
Fungi Perfecti
P.O. Box 7634
Olympia, WA 98507
or Whole Earth Access



Vintage Clothing Newsletter

KEVIN KELLY: Old, personable, respectable clothes looking for recycled owners. Inhabiting clothes from another period is an easy bargain. You get to wear art, and you get well-made clothes that are forever ana-fashionable. To find them and keep them happy requires brushing up on skills that this newsletter enthusiastically gathers.

•

Most furs, with reasonable care, will last about 50 years. Sable, raccoon and skunk will last 100. Keep in mind the age when you buy. If the coat is 40 years old, you'll still get ten good years, which is nothing to sneeze at.

•

While no guarantees are made, drycleaning usually will repel moths for a period of time; a good argument for cleaning sweaters, rather than washing them.

•

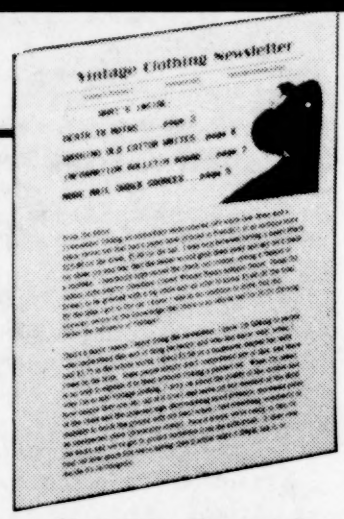
A note for those who don't sew: People who don't sew often think that patterns are for those who do. Piffle. Most dedicated sewers buy masses more patterns than they will ever use. I've sewn for over 25 years and feel good if I use 10% of the patterns I buy. Patterns are for looking at, and pretending you've made them. There is no need to feel obligated to put one together. So jump right in and enjoy the vintage patterns you find, you'll get nearly as much use from them as any seamstress.

•

Slacks from the 30's & 40's are cut very differently from modern ones, and can feel a touch strange. The crotches are designed to be lower, *much* lower, and the waistlines are cut high. I've made 2 pairs of 1943 McCall's slacks and have to admit they don't look or fit like modern slacks. The same problem will reveal itself with lounging pajama bottoms and other pants & overalls.

•

With a little help from shoe stretcher a too snug pair of shoes can be comfortable. You get this miraculous product by the bottle (I buy several a year) from a shoe repair shop. Squirt it inside and outside on the tight spots, put on a pair of socks (heavier than you'll wear with the shoes) and walk around for awhile. Voila! They fit. I've stretched AA's to fit my B size feet. It won't stain (when it's wet it looks like it, but really won't), and at $2.00 a bottle will stretch many pairs. It's the same stuff the shoe repair shops use.

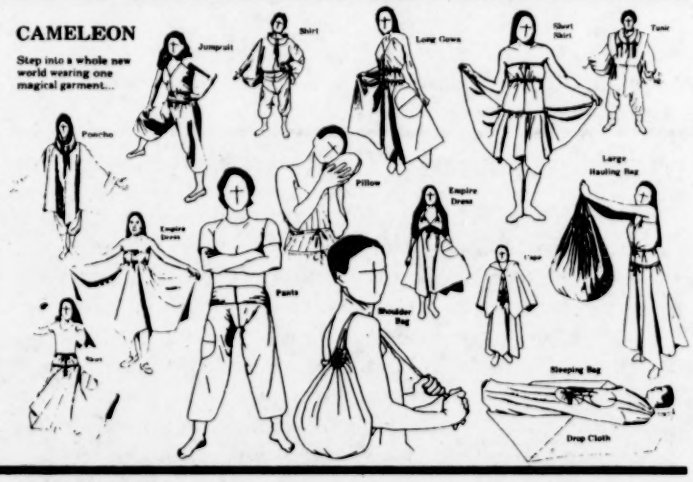


Vintage Clothing Newsletter
Terry McCormick, Editor
$10.00/year
(12 issues)
from:
Vintage Clothing
Newsletter
P.O. Box 1422
Corvallis, OR 97339

Cameleon all-purpose garment

STEWART BRAND: This ingenious array of cotton cloth and drawstrings makes the most dazzling demonstration since the advent of the vegetable slicer. It's a poncho! a dress! pants! skirt! gown! jumpsuit! shirt! large bag! small bag! pillow! light sleeping bag!! (not both at once). The first article of clothing I've seen that requires a manual. Send in the largest girth of your torso (chest, waist, or hips) and buy no other clothing for the rest of your life (at least enjoy the fantasy).

Cameleon
$48 (cotton) **$60** (denim)
postpaid from:
A+OM S.E.E.D. SYSTEM
Rt. 1, Box 159
Troy, TX 76579



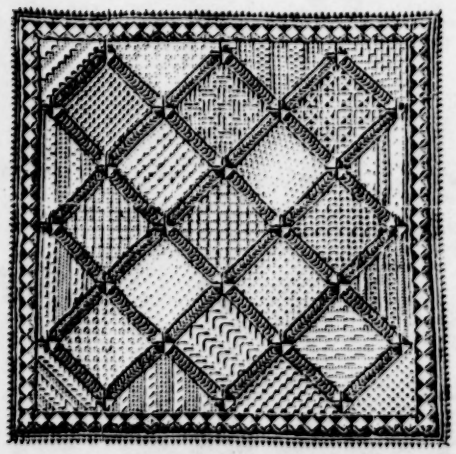
Hands On!

MIRANDA HAPGOOD: Embroidery lessons by mail. Kay Montclare is dedicated to preserving and teaching the old techniques of handwork: pulled threads, counted cross-stitch, twilling. Each month a new package arrives, containing a sample needle, practice fabric, thread, as well as complete directions for the new technique. Subscribers have a chance to comment and ask questions by returning an enclosed evaluation sheet, which Kay tabulates and responds to in the next month's newsletter. At the end of the year you are left with a generous amount of information and (if you did your homework) a wealth of knowledge about bygone embroidery techniques. The community of people who participate range from beginners to long-time needleworkers, yet most everyone finds the courses useful. The packages aren't cheap, but there is enough practice material so that several people could enjoy trying their hand at it. Complete supplies for larger projects are available through Kay's store in New Hampshire. Kay also publishes Fancywork, *a magazine of embroidery and lacemaking.*

•

The initial shipment includes the linen, needles, the layout charts, and instructions to get the project underway, along wth three different threads in two colors. Detailed charts of the stiches and other parts of the inner designs will be sent periodically throughout the program, along with any additional threads that are required. There is nothing else to purchase.

Because of the work involved, the program will extend over a period of 18 months. Lessons are sent every other month, with the exception of July, with a Problem Solver sent on alternate months in the event you need help over the hurdles.



The Norwegian Sampler

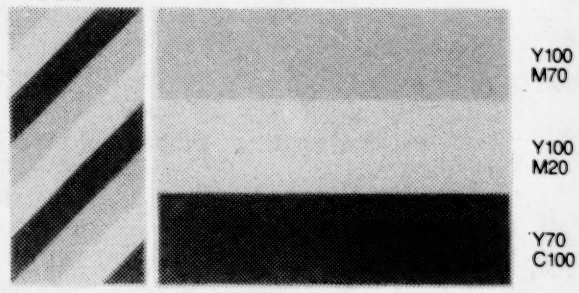
Hands On!
Information **free**.
Fancywork magazine
Kay Montclare, Editor

$15/year (3 issues)
from:
Kay Montclare
82 South Street
Milford, NH 03055

Designer's Guide to Color

KATHLEEN O'NEILL: Anybody who designs with color — house painters, knitters, graphic types, etc. — will find these two volumes useful. They show the effect of thousands of two- and three-color combinations, and how perceived colors change in relation to their neighbors. The charts will lead you to thoughtful and often surprising color combinations.

Volume One shows many possible dual color combinations, with one hue constant per page. Volume Two deals with pastels and brights, and includes more three-color combos. Each color is broken down into percentages of stock printing tints: yellow, magenta, cyan, and black, for graphic-arts folks. Most color books cost hundreds; these have gobs of color, few words, and are very affordable.



See back cover for full-color examples of these patches.

Designer's Guide to Color

Volume One
1983; 135 pp.
$10.95

Volume Two
1984; 132 pp.
$10.95

both postpaid from:
Chronicle Books
One Hallidie Plaza, Suite 806
San Francisco, CA 94102 or Whole Earth Access

Theatre Crafts How-To

J. BALDWIN: You say you're not a stage set designer? Well step right this way anyhow and check out this remarkable assortment of clever shop tricks and procedures — you'll probably be able to put many of them to work offstage. There are lots of things you won't find in home-shop magazines: an inexpensive air cylinder with a 20-foot (or less) stroke, for instance, or a simple vacuum-former. How about directions for casting fake stone lions out of foam? Or a method of permanently bending PVC pipe into the frame for a gazebo? As you'd expect, the book is particularly strong on lightweight constructions that can be easily dismounted and rebuilt. It's a way of thinking about things that can be very useful — just the opposite of the fortress-building mentality. The collection is from the respected ***Theatre Crafts Magazine.***

•

HEAT BENDING PVC PIPE

1. Enough water was boiled in galvanized pails to cover several pieces of pipe in the trough.
2. The number and lengths of pipe to be formed were selected and placed in the trough.
3. The form against which the pipe was to be formed was placed as near as possible to the trough.
4. Boiling water was carefully poured over the pipe in the trough. We allowed the pipe to heat in the water until it began to bend (approximately five seconds).
5. The pipe was lifted out of the water with wire hooks, one end higher than the other, to drain the water from the pipe.
6. The hot pipe was pressed against the form for about ten seconds.

•

We have been able to duplicate decorative detail and create original forms by using dampened sand to form negative molds with the following method.

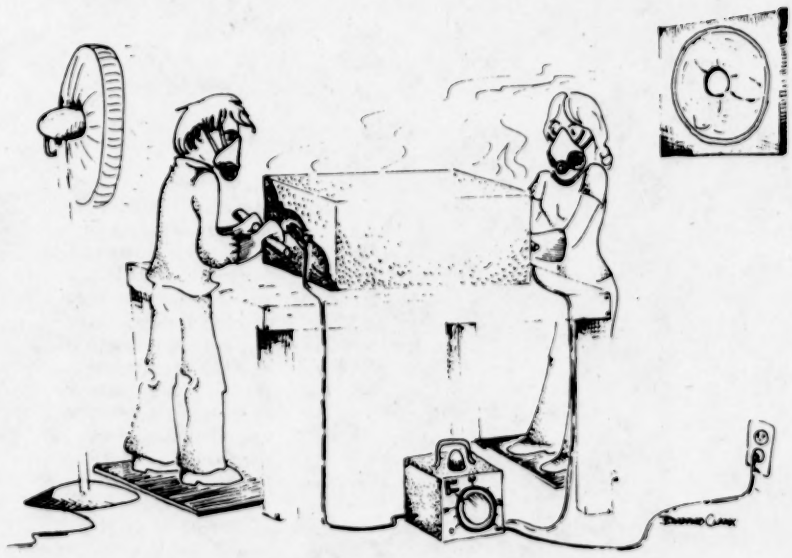
First, make a small sandbox big enough to fit the object. Pour in the sand and dampen with a spray mister. Press item into the sand and remove. Imperfections can be touched up and new features sculpted or pressed into the sand at this point.

Next, mix two-part A-B foam (we have used both polystyrene and polyurethane) and pour into the mold. When the foam has cured, it can be pulled easily from the box. Brush away excess sand and trim any excess foam.

For smaller forms requiring greater strength, use automotive body putty thinned down with fiberglass resin so it can be poured into the sand mold.

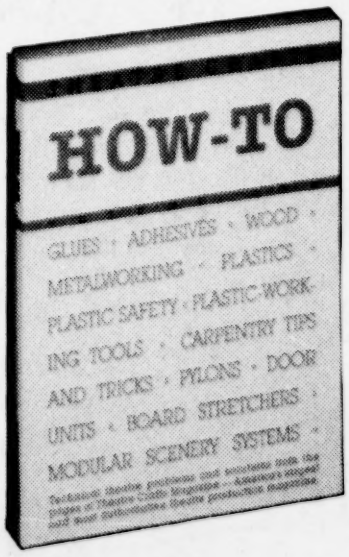
The only problem we have encountered is improper curing of the foam, due to the acidic nature of most commercial sand. To neutralize the acidity, add baking soda to the sand.

Foam casting in sand.



A hot wire cutter for styrofoam can be constructed from nichrome wire with a dowel handle at each end.

Theatre Crafts How-To (Vol. I)
The Editors of
Theatre Crafts Magazine
1984; 168 pp.
$10.95
postpaid from:
Drama Book Publishers
821 Broadway
New York, NY 10003
or Whole Earth Access


HOW-TO
GLUES · ADHESIVES · WOOD · METALWORKING · PLASTICS · PLASTIC SAFETY · PLASTIC-WORKING TOOLS · CARPENTRY TIPS AND TRICKS · PYLONS · DOOR UNITS · BOARD STRETCHERS · MODULAR SCENERY SYSTEMS ·

The rough-and-tumble world of pork bellies . . .

TYCOON

Jim Zuber. Copy-protected. $40 - $60; street price $35 - $41. IBM PC; Apple II family, Apple III (emulation mode); Macintosh; Commodore 64. Blue Chip Software, 6740 Eton Ave., Canoga Park, CA 91303; 818/346-0730.

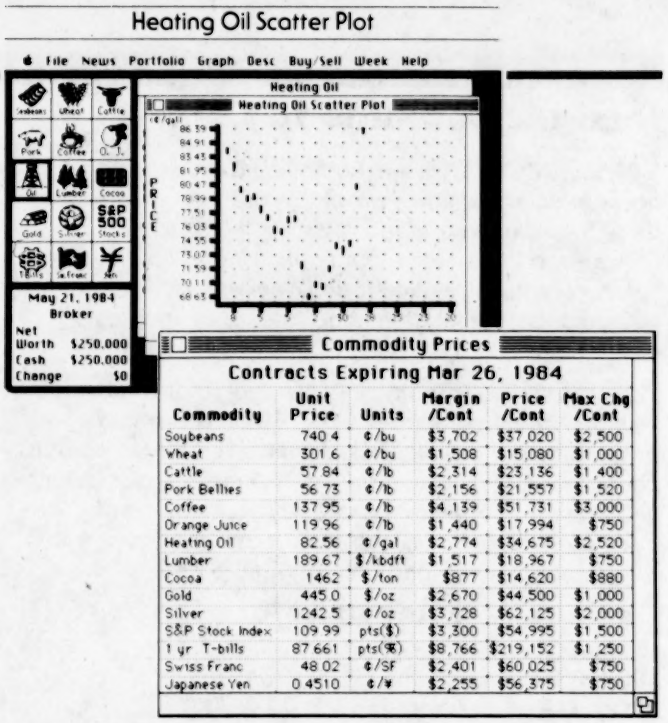
STEVEN LEVY: My favorite of the series of Blue Chip games that allow you to enter a sector of the economy and get rich. I think it works best because, more than MILLIONAIRE (which simulates the stock market) and BARON (which mocks real estate speculation), TYCOON focuses on the normally rough-and-tumble world of commodities trading — the world of pork bellies, Swiss francs, and heating oil futures. A perfect world for simulation that works most perfectly on the mouse-and-window-crazy Mac, where you wind up shuffling charts, graphs, and news from the "financial journal" with lightning speed across your desktop. TYCOON probably works with slightly more logic than the real commodities market — if you hear of a horrid frost in Florida, rest assured orange juice futures are the place to be — but still, there are harrowing twists and turns, especially when trying to balance between long contracts and short, puts and options, and cash-flow considerations. As with all these Blue Chip games, the verisimilitude is not only impressive, but well integrated into game play. It's the mercantile equivalent of a shoot-'em-up — instead of hanging on for one more wave of invaders, I wind up lingering on the machine to see the next week's commodity changes . . . and next week, and next.

•

A favorable news tidbit in The Financial Journal has led you to consider purchasing heating oil futures. Select the heating oil icon from the chart of commodities.

Before you commit your hard-earned dollars to heating oil, you'd like to learn more about the commodity. Select "Heating Oil" from the "Desc" menu. A text description of the commodity appears on the desktop.

You decide to examine the history of heating oil prices. In the "Graph" menu, five different graph types are available pertaining to specific commodities, as well as the Commodity Index we saw in The Week at a Glance. Select "Heating Oil Scatter Plot" from the "Graph" menu. The Macintosh places the heating oil graph over the previous window, like papers on a desk.



Commodity	Unit Price	Units	Margin /Cont	Price /Cont	Max Chg /Cont
Soybeans	740 4	¢/bu	$3,702	$37,020	$2,500
Wheat	301 6	¢/bu	$1,508	$15,080	$1,000
Cattle	57 84	¢/lb	$2,314	$23,136	$1,400
Pork Bellies	56 73	¢/lb	$2,156	$21,557	$1,520
Coffee	137 95	¢/lb	$4,139	$51,731	$3,000
Orange Juice	119 96	¢/lb	$1,440	$17,994	$750
Heating Oil	82 56	¢/gal	$2,774	$34,675	$2,520
Lumber	189 67	$/kbdft	$1,517	$18,967	$750
Cocoa	1462	$/ton	$877	$14,620	$880
Gold	445 0	$/oz	$2,670	$44,500	$1,000
Silver	1242 5	¢/oz	$3,728	$62,125	$2,000
S&P Stock Index	109 99	pts($)	$3,300	$54,995	$1,500
1 yr T-bills	87 661	pts(%)	$8,766	$219,152	$1,250
Swiss Franc	48 02	¢/SF	$2,401	$60,025	$750
Japanese Yen	0 4510	¢/¥	$2,255	$56,375	$750

The Option Prices chart contains the following information for each commodity: the current option premium, the underlying futures price for the option expiration date, the strike price for a call option, the strike price for a put option, and the trading units.

An electronic novel . . .

MINDWHEEL

Robert Pinsky, Steve Hales, and William Mataga. Not copy-protected. $40 - $45; street price $28 - $31. IBM PC (128K); Apple II family; Macintosh; Commodore 64; Atari. Synapse and Broderbund, 17 Paul Dr., San Rafael, CA 94903; 415/479-1170.

STEVEN LEVY: The opening scene of MINDWHEEL is positively mindblowing. There you are, thrust into the consciousness of a dead rock-and-roll singer, with a frenzied crowd about to engulf you — and you have to piece together information to solve the problem that might lead to world destruction. OK, that's standard practice for adventure games, but this one is written by a celebrated poet, Robert Pinsky, who obviously had a great time concocting an outlandish sci-fi plot which, with the aid of the long-awaited Synapse parser, really draws you in. It's especially strong in encouraging interaction with the characters, who really are a vivid and varied lot.

Dr. Eva Fein, "the female Einstein" of the Late Technological Age, honored for earthshaking work on the nature of matter and energy. A schoolmate of The Generalissimo, she fled his regime, then developed the horrible weapons that defeated him — weapons that now threaten the obliteration of all life. Her deathbed message to the world supplied Bobby Clemon with the words of a peace song.

Now, as parsers go, there are problems. For instance, it often tells you to PRESS ANY KEY to get more text, and if you press a letter-key (like an A or an S), it'll mess up your next input. And since the rules aren't clear on what the program recognizes and what it doesn't, you'll forever be coming up across cleverly worded messages which translate to I DON'T UNDERSTAND.

MINDWHEEL has an interesting copy-protection scheme, too. Before you start, it'll ask you to type a "password" — a certain word on a certain line on a certain page of the documentation, which is an actual hardback book. So if you don't have the documentation book, don't bother spinning the MINDWHEEL. If you do, you'll find there are exhilarating moments to be had in MINDWHEEL.

Whoo Whoops.

•

Many of the characters in MINDWHEEL move around of their own volition. When you talk to a character in your area, he will answer you in his own special way. If he happens to move to the next room, he won't brush you off; he will still answer. However, if the character moves far away from your position, he'll no longer be able to hear you. Examples:

(thug in your area)
thug "what is the wheel?
"I don't have to talk to you about the Wheel of Wisdom!" responds the thug.

(thug in the next room)
thug "who are you?
"I don't have to tell you any personal details," snarls the insolent thug.

(thug far away)
thug "you are a jerk!
Your words don't reach that far.

Measuring problems and progress. . .

PUZZLE TANKS

Thomas C. O'Brien. Copy-protected. $55; street price $45. Apple II family; TRS-80 Models I, III, IV; TRS-80 Color Computer. Sunburst Communications, 39 Washington St., Pleasantville, NY 10570; 800/431-1934 (in NY: 914/769-5030).

JULIE ASKELAND: My students ask for this program time after time, and at a recent parents' night I noticed several adults playing it as well. PUZZLE TANKS can be played by one, two, or a group working together. It's a delightful example of how imaginative problem-solving software has become.

The program is based on the time-old problem, "Farmer Green has a five-quart pail and a seven-quart pail. How can he measure out exactly eight quarts?" In this problem-solving game, you move liquids between two containers in a tank truck.

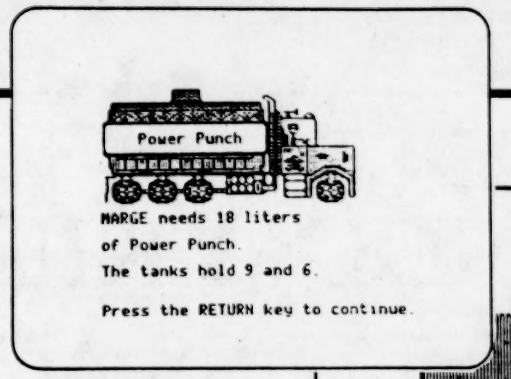
Students can choose Beginner, Expert, Grand Master or Champion level of play. Beginners use simple addition, subtraction, or multiplication to solve the problem; Expert problems require several steps to solve; Grand Masters lose the aid of the holding truck. At the highest (Champion) level of difficulty, students try to solve problems in fewer steps than the current champion. They seem to welcome the challenge.

•

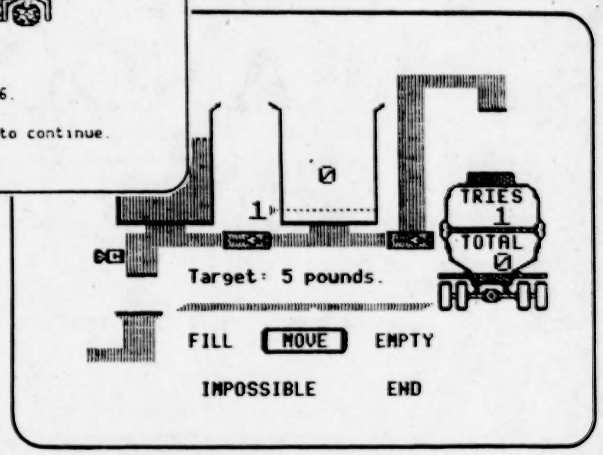
IMPOSSIBLE indicates that the problem . . . cannot be done with the numbers provided. Students must determine if the problem is impossible. If the problem is possible, the player will be charged with one try. If the problem in fact is impossible, the player is a winner.

•

As a Grand Master . . . there's no room for storage! One must obtain the target with only the two tanks provided. (The computer is set to recognize a solution, whether it's in one tank or shared between the two tanks.)



Given an unlimited supply of Power Punch but only two PUZZLE TANKS containers for measuring, one that holds nine quarts and one that holds six quarts, how do you measure out exactly 18 quarts of Power Punch?



Many PUZZLE TANKS math problems have more than one possible solution, and sometimes it's impossible to get the target amount of liquid from the amounts available in the two tanks. At the Champion level, the player who solves a problem in the fewest moves wins.

Alors, allons!. . .

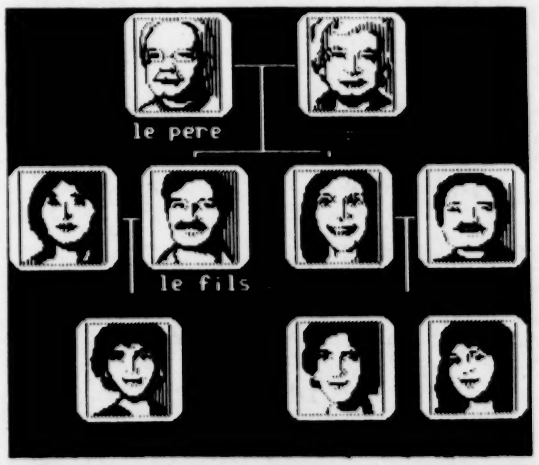
PARIS EN METRO

Arlene Krane, Philip Orenstein, Lewis Copulsky, Robert Wickenden. Version 2.0. Copy-protected. $81; street price $65. Apple II family. D.C. Heath and Co., 125 Spring St., Lexington, MA 02173; 800/428-8071 (in MA: 617/860-1860).

PAT BUCK: Ordinarily I'm not a booster of drill-and-practice software because it is too limited, and for the most part boring, but this program has several well-thought-out features. It's colorful and musical, fun to use, and it teaches you several different things about the French language and also about Paris.

The program uses the Paris Metro (their subway/public transportation system) as the "vehicle" to drill French articles (you remember those — impossible!) and the verb aller (equally impossible while at the same time improbable!). Several famous Paris landmarks, such as the Louvre, Notre Dame, and the Eiffel Tower, become subway system destinations. There are several lessons and, as a reward for your endeavors, a game. The graphics are superb. And the music can be turned off if you'd rather work quietly.

Although there is a good teacher's manual and the manufacturer includes classroom management aids, the only disadvantages are in classroom situations: teachers can't add to or vary the lessons and there is no way within the program to keep track of a student's progress. Still, the program would be ideal in a beginning French class or in a conversational French class for travelers on the verge of going to Paris.



Le verbe 'aller' (TO GO) **Activity 2**

Je	vais
Tu	vas
Il/Elle	va
Nous	allons
Vous	allez
Ils/Elles	vont

PARIS EN METRO certainly beats the way I learned French years ago in high school, with flash cards and endless repetitious drill-in-unison days with bored classmates.

UPDATE

Hacker Hit Parade

*STEVEN LEVY: Remember Les Crane, the TV talk-show guy who used a machine-gun mike to quiz his audience? You guessed it — he's into software now, and his plan is to rerelease famous programs, kind of a hacker hit parade. First out was a version of the I CHING for IBM PCs (**WER** #46, p. 102), now followed by a package, **Software Golden Oldies, Volume I**, that includes the original ADVENTURE (same version as the Software Toolworks one we recommended in **WESC**, p. 41), ELIZA, and LIFE games, and even a recreation of the original PONG. Nicely packaged, including a fun booklet.*

SOFTWARE GOLDEN OLDIES, VOLUME I ($30): Software Country, 270 N. Canon Drive #1297, Beverly Hills, CA 90210; 213/278-8450.

FROM

RANDOM KINDNESS AND SENSELESS ACTS OF BEAUTY

a new book by Anne Herbert

FIRST

Did you ever notice that some days everyone looks beautiful?

Some days everyone I see is walking around on the face of the Earth with their souls hanging out all gorgeous. Shining back at the sun, whether the sun is shining or not.

Do you ever feel bad for someone you've never met? Some days I hear about some people I don't know getting hurt by other people I don't know, and every cell of me feels pain. Can't move, can't breathe. From skin to stomach to soul, I hurt for the people who are hurting, and it doesn't help them at all. I don't think it helps them at all.

I don't know how to live in this world.

I don't know how to live in this world without killing half my feelings. If I'm alive to the joy, will I be callous to other people's pain? If I feel the pain, will I forget the joy?

I feel like there are many moments in life when we are in love with what we are doing — building a Tinker Toy bridge or planting a garden, having a conversation or touching each other's bodies. Whatever we're doing, we're floating inside beauty.

Then we interrupt ourselves. We have to go to a school that bores us or a job that gives us headaches. We have to go to war or we can't stop war from coming to us. We have to be killed by a bomb we have to drop.

Why do we keep interrupting ourselves?

I don't know how to stop the chain of painful interruptions, and you don't know. But somewhere in the space between us, *we* know.

When you're reading this and you notice feelings and thoughts going through you — stop and listen to them. They know. These words will wait, but the wispy truths they remind you of may not wait.

Hear yourself. Listen to yourself. Talk with your friends about what you know and what you wish you knew. Find a place to say your shaky doubts, your 4 A.M. fears, your impossible dreams. If you feel like writing to me, do — but show the letter to your friends first. Local heroes are the only ones who'll touch you back.

A book called *A Course in Miracles* says there are only two emotions — fear and love. We use fear to hide from love. We use fear to fill our days in so many ways that I'm afraid if we give fear up, we won't know how to spend our time.

We'll know. We'll live our love; we'll stop hiding our beauty; we'll unleash our kindness, and we'll know.

These fine pieces of daring come from Anne Herbert's soon-to-be-published book, Random Kindness and Senseless Acts of Beauty *(Random House). Anne was the poet from Ohio who invented the editorial staff for this magazine in 1977 by responding to Stewart Brand's request for assistance, after he midwifed the first 12 issues. Anne's uncommon notes of extraordinarily ordinary daily events were threaded through the corner of every page of the* Next Whole Earth Catalog *as "The Rising Sun Neighborhood Newsletter." By an odd stitchery they sewed the* Catalog *together. The same stitches hold these excerpts together. Anne's writing is conversation; she's filled in her lines — you're supposed to write her yours.* —*Kevin Kelly*

Out Breaks

Well do I remember that bright summer morning in 1397 when Fred and Louie decided it was time to start modern science.

"So. We gonna play it like we're on the inside or we gonna play it like we're on the outside?" asked Louie.

"Outside, for sure," said Fred. "It makes me feel strong."

Fred kicked the starter and they revved off as fast as they could go to Alamogordo, running over diphtheria and smallpox on the way.

"Boom," said the sky when they got there, and the canyons also boomed. The clouds got bigger and cockier.

"Wow," said Louie. "It's like coming all over everything."

"It's better," said Fred. "When you come yourself, you lose control. This baby is *ours*."

"Watch what you get when you torture rocks," said the witch of the desert but the boys were too excited to hear.

Tick tick tick tick tick Fred is feeling faint. Fred is getting skinny. Fred is in great pain. Fred is shrinking from the inside out. Why did Fred get cancer? It's a mystery to him.

Louie, who is healthy by all external standards, feels more and more it's pointless — life, that is. Can't quite remember what he used to think it all meant, if he did. He parks modern science outside of Mama's Home-Cooked Shrewd Guesses Emporium and asks her what's wrong.

"There are many roads to the Emerald City, and you have chosen the one that says you don't exist." He can't understand her. He continues to feel the inside of his head shriveling away like dead Fred's hand.

Kathleen O'Neill

"I went for a walk this morning out the Muir Woods trail. Everything was so beautiful, with the sun coming through the trees, and I was thinking I should do this every morning, when suddenly I realized that I was surrounded by deformity. The trees were all gnarled and bent out of shape. I wanted to say, 'Socrates, you're wrong. There is no ideal tree.' There's a mass of gorgeous imperfections. That's us."

—Marilyn Harris Kriegel

Lost in Logic

Women in bad moods, like Jezebel and Medea, and the soil dying into streams — the end of the goddess religion. A man runs after a woman to rape her and she says "I am a servant of Diana" and turns into a tree, disappears into a forest, becomes a bunch of reeds. Something of the Earth could no longer live in humans. Diana went to the Moon and our history began. Our history and myths begin at the end of something else.

And so it happened that women could no longer get what they wanted directly and were presented with the choice of being powerless or

being sneaky. Jezebel and Medea rage against that choice, seem crazy, and die. Some women got to become trees.

Diana was once the great goddess of the mud and soil and dirt and dust, the stuff of life herself. People who worshipped her knew that the Earth for us humans is earth — it's what we eat.

Something happened and there was no more great goddess in Greece and Diana was Goddess of the Moon, Virgin, Hunter, and it was hard to figure how she fit in with the rowdy frat boys of the new male pantheon. No more great goddess anywhere, and guys gathered in the streets to try to figure out what sense life made and make fun of women trapped at home.

Eward Hyams in his book *Soil and Civilization* says that logic is a form of insanity developed by the first generation of Greeks to live in the city, away from the land that gives us all life. He says, in essence, that training yourself to think as if you were outside of nature looking in is nuts, since we're inside of nature dependent on nature for our very life. "The method led, of course, to what are sometimes called the triumphs of science. Great discoveries were made, and it is not the business of this book to discuss whether the practical application of these discoveries has justified the faith of rational men in science. One of the last trades to which science, the method of inquiry into nature, but not living as part of nature, was applied, was that of the farmer.

"It would be almost impossible to exaggerate the disasters which ensued."

Modern agriculture is missing that part of prayer which is listening. Scientific farming develops the ideal strain of rice or the ideal strain of corn without allowing for the fact that there is no ideal climate or ideal soil — everything changes. It may not be logical but it's where we live, as Diana watches us struggle from afar.

Goddess worship means noticing what she does and wants to do and helping her. And thanking her for her many blessings. A Hopi woman was sorting kernels of corn to save for seed and the white guy asked why she didn't throw away the funny shaped ones. She said they know something, too, that should be saved.

Laboratory conditions exist in laboratories. Who wants to live there? Who can?

As the very mode of knowing changes, you find you know secrets we all need that you can share if you're only willing to make a fool of yourself.

Not Diana, some other name, some other way, is coming to find us, inside. We are here, we are in the very heart of life itself, or we couldn't live.

Soon after Diana left, Pan was chasing Syrinx to get what he wanted whether she wanted to give it or not and he trapped her by the river and she said "I am a servant of Diana" and turned into a bunch of reeds. Pan was sad that she was gone and fell among the reeds weeping and noticed that the reeds made noise and that's how he got his pipes to play songs on, as he looked for what he'd scared away. So much of our tenderness that should be cuddling soil and hugging trees goes to music — not even making it, but listening to it — while we're made of bullied food we buy at supermarkets far from where it was force grown. Spread the tenderness around, and we could live in a world that hugs back.

To Do

Reimagine the Goddess

Reimagine the God

Imagine the Goddess and the God together happy

We fear the end of the world. The world ends all the time. Our fantasies of what we expected, our expectations that it will always be like we think it is now, slowly crumble all the time, and sometimes explode.

We can't stop the planet. It will spin and circle in the sun's heat with us or without us.

Swimming through space in our bubble of soggy air we make up worlds to believe we're living in and get scared because we know they can't last. And weave our fears into ropes to choke the planet.

We can't blow up the Earth. We sometimes talk as if we can because we forget that the world we've built to live in is like a dollhouse made to scale to make the dolls look large. We're not big enough to bomb our home out of existence, just ourselves and many many many other small things.

Are we trying to kill the real Earth down to the size of our made up human-centered world? Is that part of what is going on? We dream that we're a very important species and we're making the dream come true by killing off other species en masse.

Maybe we need to get better at ending our pretend world so we won't have to try to kill the real

planet. Lots of wise people are talking about learning to mourn and grieve and wail that it's not ok that the world I loved is gone, that the world I loved the most never existed. To be sad about what we're sad about and to rage about what we're angry about and not have to secretly ship all those feelings to Russians or new friends or immigrants or our children or our leaders. I don't know. I'm not good at that myself. It's worth a try. Maybe if we sit with all the pain we've got, we won't have to manufacture new pain at such a frantic rate.

❖

There are more heavens and more earths than you've hungered for or feared.
Keep dreaming, Horatio.

❖

The sidewalk says "Trees are Brothers" and "Smash the State" and "Anarchy" and "Agamazu." I wonder what that means. The door beside the sidewalk says "Massage Studio. Come in." The tree beside the sidewalk doesn't say.

If I walk on concrete, drive in vinyl, stare at video all day; I'm nature hungry when I fuck with you.
Will you be my forest and my ocean and my friend and the family that I can barely stand?
Will it work out? I'm sure it would if I had enough money.

❖

"It was much pleasanter at home," thought poor Alice, "when one wasn't always growing larger and smaller and being ordered about by mice and rabbits."

❖

How shall we humans cease to be the ruling class of this planet? Or — how shall we gracefully rid ourselves of the illusion that we are the ruling class?

❖

Dear Peter — I just read a quote by Aldo Leopold that says, "One of the penalties of an ecological education is that one lives in a world of wounds." How do you live with that and still be joyful? Yr. Fd. Anne.

❖

David Theis saw that postcard on my desk and said, "If you live in a world of wounds, doesn't that mean you also live in a world of healing?"

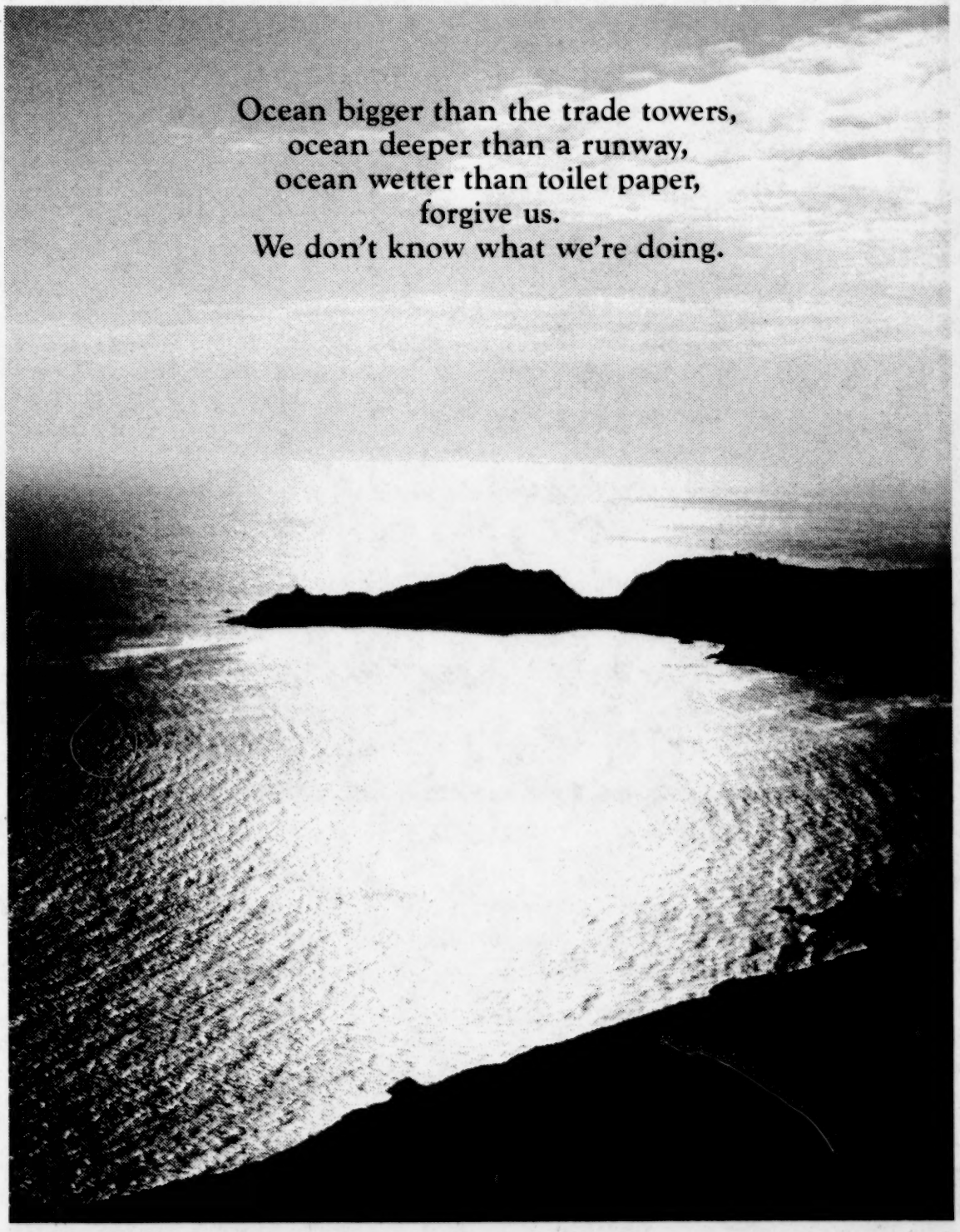
❖

We reserve the right to serve anybody. —*Sign in a cafe*

❖

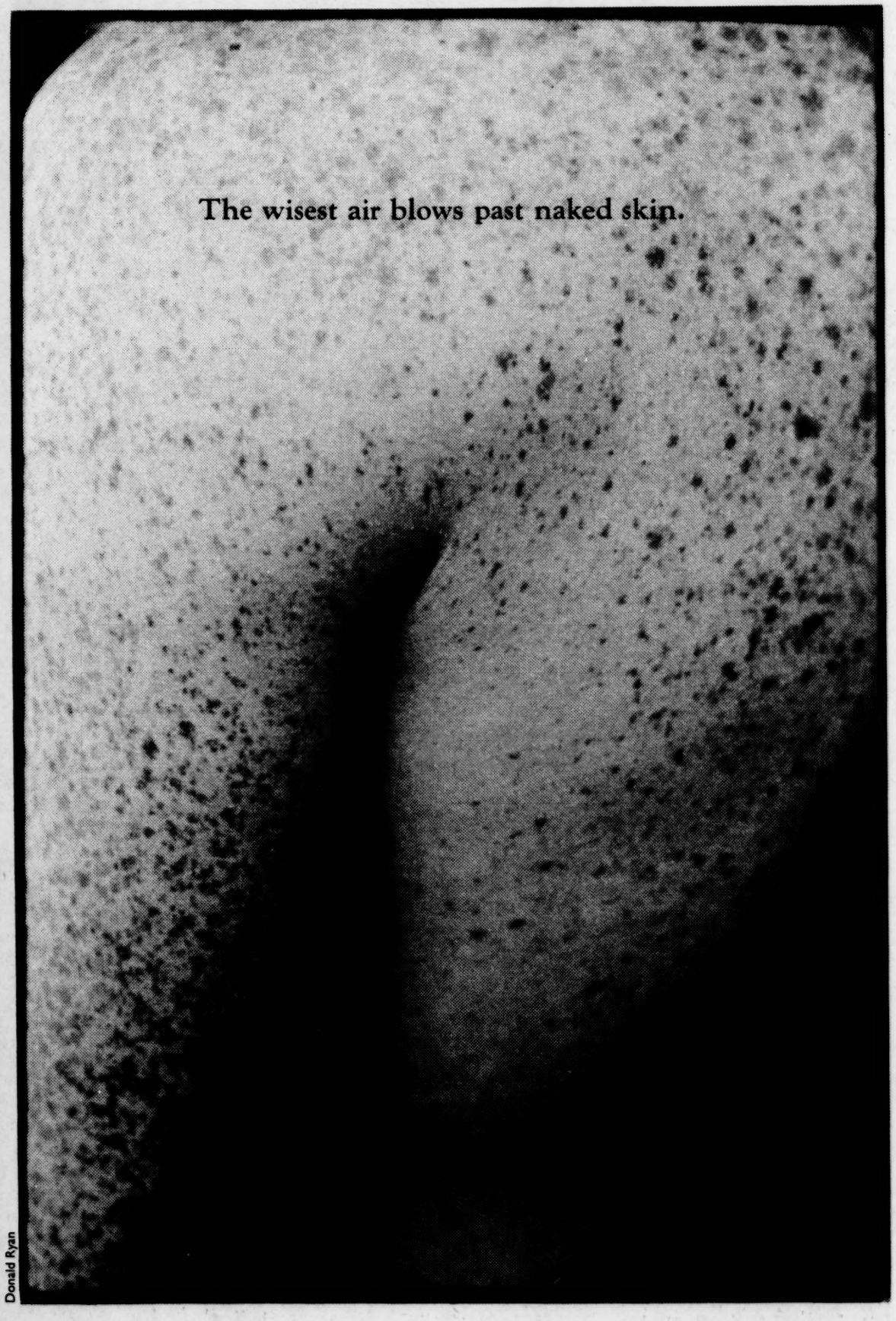
— "So after all that, do you like her?"

— "I like anyone who forgives me. I need all the forgiveness I can get." —*Voices on the street*


Ocean bigger than the trade towers,
ocean deeper than a runway,
ocean wetter than toilet paper,
forgive us.
We don't know what we're doing.

Donald Ryan

27 GATE FIVE ROAD SAUSALITO CA 94965



Donald Ryan

The chick was cramped. It was all too tight. She pushed and pecked against the edge of the world until it shattered into light and smells and hugeness. She poked for food in the new place until she'd explored enough. She felt cramped. She pecked and pushed against the bottom of the sky until the sky cracked. The people in the next place saw their full moon break into rocks and a giant chicken. The chick was uncramped and getting bigger until she burst and covered the new world with flowers they call Awans-kay, meaning, chicken feathers from the sky.

❖

I lie down with my head at the trunk of the tree. Green smells. The cool layer of air that swims in and out of the soil. I go to sleep encircled by branches and roots, earth and air alive around my body. I awake looking up through the leaves at the sun flowing down through the leaves to me. How was I ever unhappy?

❖

A great day for Janie when she learned she gets to work for the ducks. First year in high school, all her friends were deciding their college majors — dietics, computer science, electrical engineering — is this life? Janie asked herself staring, feeling trapped, at the pond. She was loving the ducks' floating, and their feathers, and their triangle feet and waddle walk, and suddenly she knew she could work for the ducks. Peace. Whether to keep their water clean or play flute to them, she doesn't know yet, but she spends long hours with the ducks and is working on her quack.

RK/SAB

Anything that happens randomly and frequently starts to make its own sense and changes the world into itself. Senseless violence makes more and more sense as vengeance and fear pull us closer and closer to a world where everyone's dead for no reason.

Violence isn't the only thing that's senseless until it creates its own sense. Anything you think there should be more of, do it randomly. Don't await a reason. It will make itself be more, senselessly.

Scrawl it on the wall: RANDOM KINDNESS AND SENSELESS ACTS OF BEAUTY

I used to have fantasies of positive vandalism. Breaking into the school and painting a dirty room bright colors overnight. Fixing broken glass in people's houses while they're gone. Leaving full meals on tables in the struggling part of town. I fantasize slipping grocery money into the old lady's purse, secretly planting daffodils every grey place there is.

Thesis: Violence

Antithesis: Nonviolence

Synthesis: Suggestions welcome

Nonviolence was invented before the atomic bomb was invented. What will we invent to answer the bombs?

❖

In the documentary *The Day After Trinity*, Frank Oppenheimer talks about hearing that the atomic bomb, that he worked on, went off as planned over Hiroshima. He went from exhilaration — "It worked!" to horror — "All those smashed people!" in an instant. We seem to really want war until we get it and then not want it very much. Maybe we get confused and we really wanted something else all the time? Maybe we could notice what we really want and get that instead?

Fantasies Of Being Normal

Department stores don't depress me.

Children killed far away in time and space remain far away and dead.

Voting feels like making a choice.

I habitually believe presidents.

I have a favorite brand of everything.

I have a solid sense of what the word normal means.

I find people with large chests and empty eyes erotic.

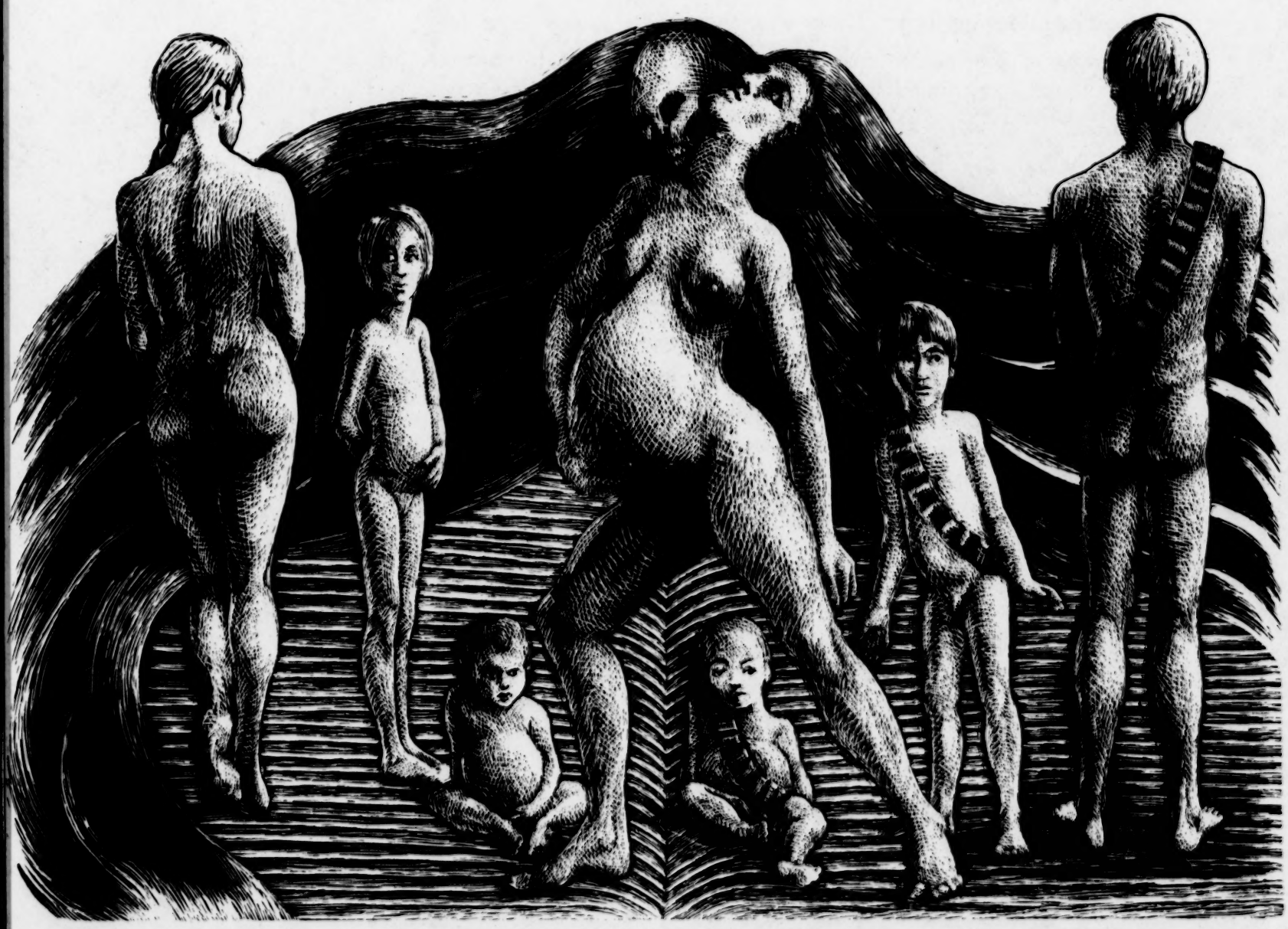
I have the same belief system for days on end.

I say what I think and it blends right in.

Plants are soulless.

People know best.

"If what you do to prove you're a real woman is get pregnant and what you do to prove you're a real man is to go out and kill people . . . how are we going to get out of that?" —*Kathleen*



Kathleen O'Neill

The anger is a disguise for fear. The fear is fear of love. What if I loved it all, if every sunbeam reflected from a shop window pierced my heart, and the face of every passing stranger touched my breast? No time then to worry and make myself exist by always thinking of myself. If I could really see the leaf, I'd disappear.

❖

When "shit" means not that it's worthless but that it's where the new stuff will grow and "fuck" is always love, not a threat of invasion, when "cocksucker" means "I'd trust you with the tenderest thing I have" and a cunt has the strength to let life push on through — then buried treasures, hidden rooms with views and marvelous rippling muscles will start to appear in that formerly wimpy word "peace."

❖

What do we want of our lives? Nervously, quickly, we decide and try to force the Earth to give it to us. She waits eons through our tiny, tinny prayers and galumphing machines, waits for us to listen to her great voice of what we're really here for.

❖

It's just the regular worship of the typical sun. Another day on the plant planet.

It's reaching for the gold that warms my briny deep. One more afternoon on the water sphere.

Sunbathing soaks me in how important I'm not, and I relax.

❖

And now, unto she who is able to keep us from falling, and who feeds us daily from the glory of her bounty with exceeding joy, to the all-wise Earth our mother, be glory, dominion, majesty and power, now and forever more.

She keeps us from falling by falling with us.
We fall together. Across the universe.

Zeroing In On Your Heart

Zeroing in on your heart. There's something there.

Your heart is the height of the waterfall and the slant of the continent and the tug of our lover moon and everything that keeps water flowing through life, your heart is that for you.

Listen.

Your heart doesn't know that life and love are different. All the hearts you've ever heard of in poem or scientific rumor, all those hearts are your heart.

Listen.

It's beating the pull of hot molten love, keep moving. Molten love is what you're made of, liquid at 98.6.

Listen.

Quietly flowing through your eardrum with all the force you have, your Nile, your Mississippi, your creek in the backyard, a river is all you are, and your heart flows it. Your heart is all you are.

Listen. When you try to choke your heart, the pain is a flood you can't drown in. When you try to shrink your heart, it gushes back with a death that won't let you die.

I try a little love now and then, I try to love occasionally. My heart, beats, all, the, time, stays with it. My heart is real love.

Your heart flows with life so that you will make life flow. A hot idea that burns your belly comes from your heart like a geyser, and you must move, heat up and rise. Your oldest dream that you had as your youngest thought is a spring trickling slowly forever and if you don't drink it, it will slowly wash away your heartless life.

Be sensible, say killers. Be sensible if you want, but first find something sensible that will replace your heart, that will sustain every atom of your being every minute of your day. Sensible. Make a deal with something that will keep you a living solid liquid all your life.

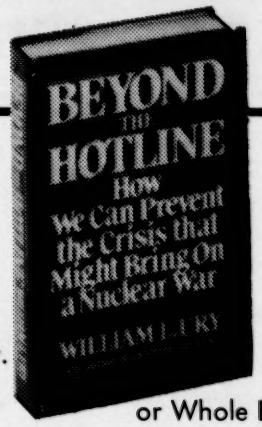
Listen to your heart beating in the night and noisy afternoon. It beats and beats again and beats again and thank you, thank you, and it beats again and it beats again. Will it beat again?

Yes.

What does your heart want you to do? Listen. ■

The Hotline, May 1983.

Beyond the Hotline
William L. Ury
1985; 200 pp.
$15.95
postpaid from:
Houghton Mifflin
Attn: Mail Order Dept.
Wayside Road
Burlington, MA 01803



or Whole Earth Access

Beyond the Hotline

STEWART BRAND: I saw the Hotline once. It's shockingly humble considering that the fate of the Earth could hang by its thread. In the Pentagon's Command Center is a handful of teletype machines and a handful of translators carefully trained for nuance; ditto on the other end in Moscow; add routine practice traffic, some exercises, that's about it.

War theoreticians these days consider accident to be the likeliest cause of nuclear war, but accidents often present or acquire complexity that could overwhelm a simple teletype link. Imagine, says the author, that:

"War breaks out between Israel and Syria. As they did in 1967, Israeli tanks gather on the Golan Heights, as if preparing for an attack on Damascus. Grimly determined to deter Israel, Moscow issues a verbal threat as it did in 1967, but goes further by placing part of its military forces on a higher state of alert. The next day, Washington counters with a worldwide alert of conventional and nuclear forces of the kind it called in 1973. In doing so, each side removes certain safeguards against inadvertent use of nuclear weapons. That midnight the news flashes into Washington that San Francisco has been destroyed in a nuclear explosion."

With each retaliation system already ratcheted to hair trigger, it could be the beginning of the End. But continue the scenario imagining the existence of what ***Beyond the Hotline*** *proposes, U.S.-Soviet Crisis Control Centers in Moscow and Washington: The Soviet general secretary denies responsibility for the explosion, offers sympathy, and offers proofs of innocence. Now the two Crisis Centers embark on a complex verification process involving shared satellite data, radar records, surfaced Soviet subs, detailed error checking. Meanwhile, while both sides are going on increased degrees of military alert, the Centers are carefully informing each other of each step in that process and negotiating a "plateau" beyond which neither side will go without top-level decision. The staffs of the Crisis Centers, well acquainted with each other, have gone through training exercises like this before. They are operating with urgency, but not panic. They are acquiring and swapping information through elaborate systems already in place and are aware of each other's reliability. Through video teleconferencing and shared computer systems they are operating practically in each other's presence.*

Four and a half days later, sufficient proofs in hand, both sides begin to de-escalate their military alerts and commence the search for the real culprit. It might be a "third party," armed with religious zeal and a stolen nuclear weapon, hoping the two superpower Satans would destroy each other.

The author doesn't say so, but the proposal looks a world better than Reagan's "Star Wars" as a true strategic defense initiative — infinitely cheaper, made of available technology, deployable now instead of decades from now, and politically feasible.

Author William Ury, Director of Harvard's Nuclear Negotiation Project, was coauthor with Roger Fisher of the justly renowned ***Getting to Yes: Negotiating Agreement Without Giving In****. Like that book, this one is an adroit piece of work — easy to read, fascinating, convincing. A book intended to change behavior.*

Much of the fascination comes from the history brought to bear on the argument. The Cuban Missile Crisis that demonstrated the need for establishing the Hotline. Hotline adventures since then — " 'Mr. President,' MacNamara said, 'The Hotline is up. The Soviet Premier wants to speak with you.' 'Well,' mumbled a groggy Lyndon Johnson, 'what should I say?' " *(That one led to defusing a crisis over Suez — Kosygin mistakenly thought America was part of an Israeli bombing raid on Egypt.) World War I haunts the author — no nation wanted it; it started by accident and wiped out a generation of Europeans. The death of the Korean airliner is examined as a failure-to-communicate that could easily have been prevented by Joint Crisis Centers.*

Besides the apparatus of the Centers, the book proposes an operating context around them. Twice-yearly, cabinet-level talks between the two powers, for example, so the military and foreign policy people on each side know exactly who they're dealing with. Careful training of the U.S. President in handling crisis (by definition, too many things going wrong at once for clear understanding or simple solution). Beyond briefing, this can lead to thorough run-throughs of crisis scenarios, as are routine in the military, so the President can develop a systematic game plan:

"Such a game plan may be as simple as running through the four key elements of a crisis and asking how one could deal with each one. How can I buy *time* for decision making? Should I keep the information quiet? How can I reduce the *stakes*? Should I take protective measures? How can I reduce the *uncertainty*? Should I reassure the other side that I have no intention of attacking? How can I increase my *options*? Shall I set up an advisory group and appoint a devil's advocate?"

Defusing crisis and seeking stabilization is a different kind of game than most.

"In the South Pacific, the Trobriand Islanders have adopted the game of cricket — with one key difference in the rules. Since a loss by one rival village to another would inevitably lead to strained relations and violence, it is understood that neither side will be allowed to lose. The two sides play until a tie is reached. Something analogous needs to become the practice in acute crises."

There is widely-based political support in the U.S. for Joint Crisis Centers and considerable interest in the Soviet Union — Chernenko proposed something similar months ago. Last June the U.S. Senate passed unanimously — 82 to 0 — a bill proposing a Joint Crisis Center. All that is needed to overcome the inevitable bureaucratic inertia is conspicuous public interest. That's why this book (and why this review).

You might expect the Nuclear Freeze and other peace organizations to take up the idea, but so far they haven't, apparently because Crisis Centers are seen as politically incorrect — a form of "living with nuclear weapons" instead of abolishing them. Give me a break. With the Geneva arms talks going on, with Gorbachev new to his job in Moscow, now is an excellent time to give peace a better chance with a simple technical and organizational device. As Ury points out, the way to get to hard agreements is to start with easy ones, then build on that trust.

BACKSCATTER

Echoes from readers back
to the *Whole Earth Review*
(27 Gate Five Road,
Sausalito, California 94965)

. . . Monkey wrenchers

The Monkey Wrench Gang and *Ecodefense*, two radical environmental-action books, sparked a multi-voiced review beginning with Stewart Brand's comments on page 14 of this issue. A hot potato on hand, we continue the review/discussion here where there's comfortably more room. We hope others will join in. I was about to say that to be a monkeywrencher you need to agree that:

1) There are holy wars.
2) Wilderness is worth a holy war.
3) The time to war for wilderness is now.
4) Property destruction is OK.
5) Monkeywrenchers know exactly who the enemies are.

I am skeptical of all five assumptions, the sum total adding up to terrorism. Tree spiking is superficially nonviolent, and (I confess) appealing in a safe Robin Hood outlaw way. However, cutting down power lines, burning bulldozers, slashing tires is more what *Ecodefense* has in mind.

But anyone who disagrees with monkeywrenching had better make the alternatives work, now. Terrorism, in general, is effective. Monkeywrenching, in particular, is effective. I and my descendants can enjoy some wilderness areas that in part owe their wholeness to radical monkeywrenchers. Most unfortunately, terrorism's effectiveness continues right on, efficiently cultivating self-righteous blindness, fanaticism, hatred and anger all around, and poisonous madness that begins to smell like civil war. That hatred taints everything, destroying what was worth saving.

Eventually (because it will happen) monkeywrenching brings us to this question: is wilderness worth a human life (a son or brother), or two? I wonder how many monkeywrenchers approve of the anti-abortion clinic monkeywrencher tactics?

Kevin Kelly

Funny how terrorists aren't called terrorists once they're in power. Toxic spraying, radioactive waste-dumping, eradication of species in the name of development, the poisoning of air and water — and similar defilements of the "public" lands — are the real acts of terrorism under question here. While I think Kevin's sentiments about

the poisons of civil war are right on the mark, I think the point is moot: the war is well under way, and innocent citizens are scrambling for ways to defend themselves. Hence these books.

Ask a mother who lives near a forested area that's been sprayed with Agent Orange, who's watched the U.S. Forest Service wiggle through one legal loophole after another to carry on the spraying, and whose baby's just been born without a brain — ask her if she'd like to get her hands on *Ecodefense*.

To expand on something Kevin wrote last issue, in his review of *Deep Ecology:* A human life is indeed worth more than a flea's. It is also worth more than a bulldozer, a sawmill, a profit margin. Whether property destruction is nonviolent is debatable; life destruction — which is what environmental desecration ultimately is — is not. A sawblade can be replaced, a dismantled bulldozer remantled. But a millenia-old virgin forest that's been clear-cut, a species that's been destroyed, a baby born with birth defects — these are irreversible.

The founding fathers of this country and the Sandinistas of Nicaragua, to pick two graphic and readily accessible examples, were called terrorists — until they changed the course of history.

Joe Kane

Good point. What you get when terrorists start a country is a people that thinks that terrorism is the way to really get things done.

Kevin Kelly

Profits from the deficit

Between the "Anarchy That Works" and "Izum in Rinkydinkaragua" I found myself wondering once again how *WER* draws to itself such award-worthy journalism.

I would like to comment, however, on Szanto's statement that "The Italians make money out of funding their own deficit." *Some* Italians make money on interest by buying government bonds. The *rest* of the Italians pay the interest. This is the price of "renting" money for current consumption, to be repaid in the future. This is not unique to Italy.

In the United States, the interest on the national debt is now the third largest item in the budget after welfare and warfare spending. *Some* Americans are making a killing funding our deficit (more so because their profits are tax-free, an extra plum the government hands to its patrons).

To imply that this is good ignores several things. First, that our deficit mainly finances a war machine that threatens the globe, as well as a welfare system that is increasingly recognized to destroy the family (tribal) links that Szanto so rightly lauds. Second, that the few who can afford to finance the deficit are raking in their profits from the middle- and lower-class taxpayers who can't, in one of the greatest transfers of wealth in history. Third, and perhaps worst, is that current deficits are paid by future taxpayers. Our parents robbed us and we are robbing our children. This is a time-warp taxation without representation that leaves the future victims defenseless. If our children repudiate our debts I won't blame them, and I will have no more sympathy for the bondholders than I would for the jackals who financed the slave trade if they had lost their investments.

Tom Ness
San Francisco, California

The mind runs away from the body

As a professional cellist, I am dependent on the way my mind and body interact to a degree perhaps somewhat greater than the public at large. And as one who has spent hundreds of hours processing words in the electronic assembly line during the dry periods in this increasingly marginalized profession, I feel qualified to offer some observations regarding Jerry Mander's excellent article, "Six Grave Doubts About Computers."

I'll begin with a quibble — computers aren't the beginning of man's co-evolution with his own artifacts. We've been doing it for centuries, and learning to play an instrument is not the only example that is not destructive. (As Jerry says, "The

player becomes one with the machine (instrument). They become connected in one fluid cycle, aspects of each other.") But (end of quibble) in music we remain connected to "natural speed," and with computers we do not. In music, one's own ear and heart remain key elements in the loop, and, no matter how fast the notes, at a higher level of organization there is always a rhythm, a pulse, that is profoundly human. This is what is lacking in the (wo)man/computer interaction: faster is better, and since there is no aesthetic component in the manipulation of the tool, the mind runs away from the body.

Working with a computer (whether creatively or in the assembly line) is primarily a mental activity, which only involves the body perfunctorily. The mind goes faster and faster, while the body sits and types, trying to keep up. This is just the opposite of playing music, where the mind and body move in synchrony. It should come as no surprise, then, that we feel fresh and vigorous after playing chamber music (or tennis), spacey and disconnected after playing with a computer. It is why I am incapable of playing the cello after even a short session of computing. Fortunately, a period of sleep is all it takes to resynchronize the organism — for now.

Jerry talks about sped-up children, who are bored by ordinary reality. But we are all victims of this disease. It's astonishing the number of intelligent adults who *cannot hear* classical music — except as a kind of pleasant perfume — because they cannot slow down enough to stay with the tunes. The state of mind that can read 1200 baud *cannot* listen to Mozart. (Thus the extraordinary achievement of *Amadeus* — to show us this music through the ears it was written for, not yet speeded-up by Beethoven or Coltrane [much less by highways and computers]). . . .

Thanks for a fascinating issue.

Philip Raphals
Montreal, Quebec

Homage to von Neumann

I was an early computer nut myself. Von Neumann's grand, historic, and immediately obsolete machine was built in a low, windowless brick building at the foot of Olden Lane, where I grew up in Princeton, New Jersey. Von Neumann — and his was a true genius the likes of which this world has rarely seen — had bought up a bunch of scrap components that were stored in an old barn at the

edge of the Institute woods. Myself and one or two other ten-year-old "hackers" spent many, many days in there, monkeying around among thousands of microswitches, pigeons, and rats. There is an imagery there, and a smell I will never forget. And the joy, in those days of hard-wired electromechanical logic, of being able to sneak in there with our screwdrivers and crescent wrenches and take this stuff apart.

Well, I gave up on computers, in favour of canoes (as detailed by Kenneth Brower in *The Starship and the Canoe*, 1978, and still in print from Harper/Colophon). My sister Esther, who kept clean of the hardware side of things, approached the computer business on a different track, and now owns and writes the *RELease 1.0 Newsletter* out of New York, with "wicked fondness for the Industry" as you guys put it in your review.

My own book, *BAIDARKA*, is coming out in the spring.

George B. Dyson
Port Moody, British Columbia
Canada

"I AM THINKING ABOUT SOMETHING MUCH MORE IMPORTANT THAN BOMBS. I AM THINKING ABOUT COMPUTERS."

John von Neumann, 1946

Life before computers

. . . My father was the manager of the bank in Oakdale, where I grew up in Louisiana, and I worked one summer in the bank, the summer after I graduated from high school. One of my first days on the job I was assigned to Margurite Leatherwood so I could see what she did. She posted the ledgers. Margurite had graduated from high school and within a week she was behind that machine posting those ledgers and she did that until the day she retired, probably 50 or so years later. She never married, and being a good Baptist lady she never drank. First thing she did every morning was, she went through all the checks that had come in to be posted to the ledgers that day. She took the eraser end of a pencil and flipped through the stack lickety-split, checking to make sure the body and figures matched, that they weren't post-dated, and that the signatures weren't forged (Margurite had everyone in Oakdale's signature filed away in her head). All of a sudden that morning she stopped and started tapping her eraser on top of a wobbly signature on a check. "Look at that," she snorted, "Hiram Butler. I can tell you right now where this one got cashed. He was at Albert Johnson's cocktail lounge last night. Drunk!." And with that she flipped the check over and sure enough, it was stamped: For deposit only. Albert Johnson's Cocktail Lounge. "That's Hiram alright," Margurite said as she pulled the check out of the stack, "but I'm gonna send it back. Signature illegible."

Now I just want you to tell me one thing. You got any stories like that coming out of computers and the people who are using them?

Joe Bacon
Houston, Texas

Green rules

The March issue was good enough to make me decide to renew my subscription but sometimes you say some careless things. The reason the U.S. doesn't have a Green Party as Germany does is *not* because the need for one is less here. It is because the rules of the political game are different. Germans do not vote for a president or chancellor, they vote for a party. If a party receives at least 5 percent of the popular vote the party is awarded its percentage of seats in the Bundestag. The Bundestag is the more powerful of the two congressional houses and elects the chancellor. The other house is the Bundesrat which is similar to the House of Representatives. Imagine this system in the U.S. and you can imagine Barry Commoner's Citizens Party attracting a good deal more attention, or John Anderson as Chancellor of the United States. Imagine back to 1968 with this system and the 18-year-olds with the right to vote. Different rules, different game. . . .

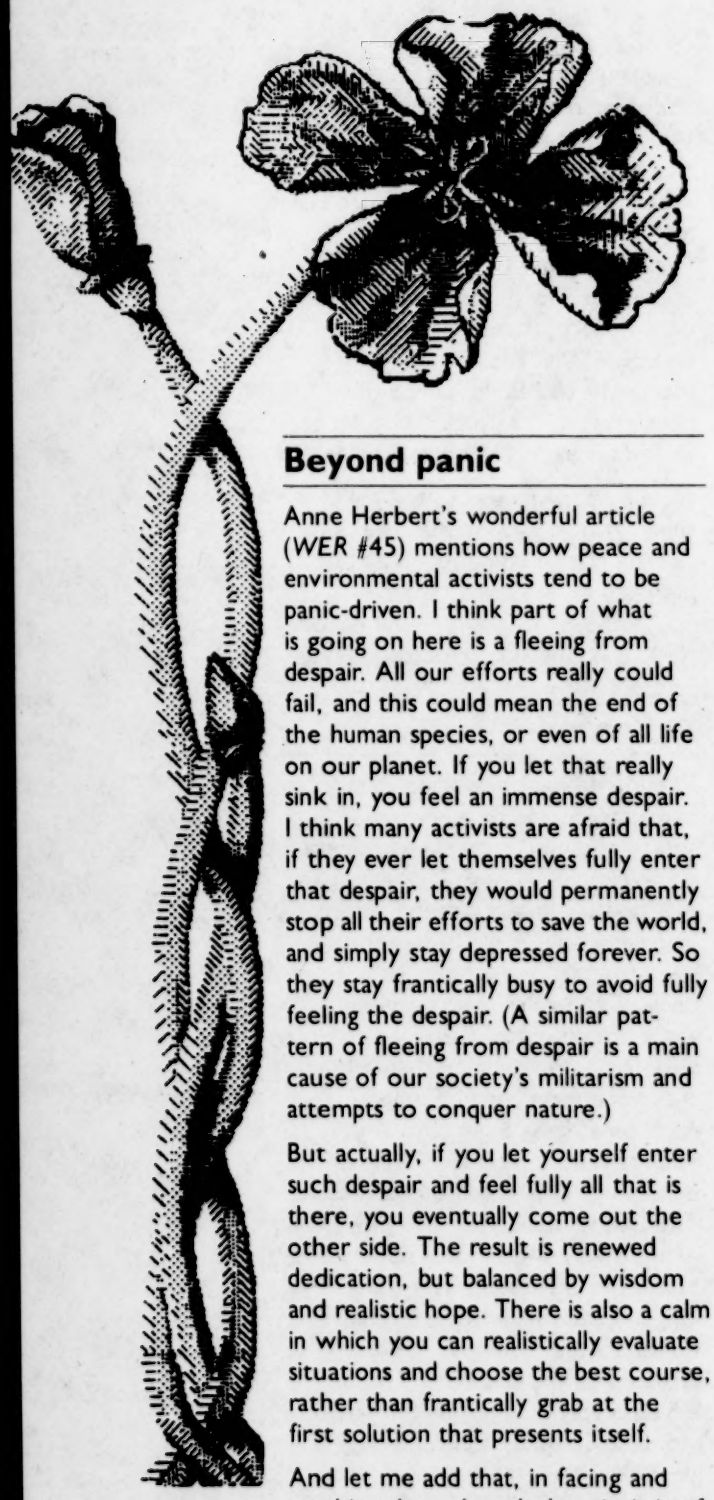
Joe Pacal
Keaau, Hawaii

Sun fractions

RE: Calculator that does fractions (*WER* #45, p. 101): The Radio Shack EC-4009 will +, −, ×, or ÷ *any* fraction . . . for $20, plus all the usual scientific stuff. It's also solar-powered.

Michael A. Brady
Potter Valley, California

[Six other readers also suggested the same. —KK]



Beyond panic

Anne Herbert's wonderful article (*WER* #45) mentions how peace and environmental activists tend to be panic-driven. I think part of what is going on here is a fleeing from despair. All our efforts really could fail, and this could mean the end of the human species, or even of all life on our planet. If you let that really sink in, you feel an immense despair. I think many activists are afraid that, if they ever let themselves fully enter that despair, they would permanently stop all their efforts to save the world, and simply stay depressed forever. So they stay frantically busy to avoid fully feeling the despair. (A similar pattern of fleeing from despair is a main cause of our society's militarism and attempts to conquer nature.)

But actually, if you let yourself enter such despair and feel fully all that is there, you eventually come out the other side. The result is renewed dedication, but balanced by wisdom and realistic hope. There is also a calm in which you can realistically evaluate situations and choose the best course, rather than frantically grab at the first solution that presents itself.

And let me add that, in facing and working through such despair, it is of the greatest help to have a larger philosophical or religious perspective that allows you to accept the possibility of loss.

Les Brunswick
Wilkinsburg, Pennsylvania

Mean Ed Abbey

Your March ("Toxic Environmentalists") issue invited refutations. Here's one for Wendell Berry's pious essay, "A Few Words in Favor of Edward Abbey." I am the blackguard who cast aspersions on Abbey three years ago in *The Nation*, eliciting Berry's glacier-quick wrath.

Contrary to Berry's own assumption, I did not assume Abbey was an environmentalist or any other kind of *ist*. I said he was an *ast* — iconoclast. But I did judge him by environmentalists' standards. Purchasing his books in droves, environmentalists have paid a goodly share of Abbey's bills over the years, and for many of them he is something of a patron saint. One useful way to judge his work, then, was to see how it served environmentalists' interests. Not so well, I concluded, especially in *Down The River*, which came out at a time when even bourgeois environmentalism was under heavy attack. (I concede that there are other ways of judging Abbey's work. One is by the quantity of laughs per page, and here he is a champ.)

What I object to about Berry's piece is not so much its misrepresentation of me for whipping-boy reasons. It's that Berry judges Abbey by no standards at all and exempts him from the requirements of "sobriety, information, and logic." Because Abbey is a "character" he apparently gets to say any dumb, nasty thing he pleases, and we're all supposed to laugh it off and cherish him like a bearded Martha Mitchell. Sorry, I'm not hugging. For me Edward Abbey is not a living legend, just a gifted writer with a mean streak.

Dennis Drabelle
Arlington, Virginia

The Resourceful Earth, ha!

I followed your admonition in the current issue of *Whole Earth* to read Julian Simon's *The Resourceful Earth*, which you described as "a detailed, responsible riposte to *Global 2000*." It is nothing of the sort. It is as bad as most of Simon's work, which is to say biased, indifferent to data and methodology, contentious, and wholly ignorant of either ecology or thermodynamics. Julian Simon, to put it kindly, is neither a good scientist nor a particularly well-informed intellect. Neither is he trained as an economist, although he quite willingly allows himself to be advertised as such.

For your enlightenment I have enclosed a copy of Paul Ehrlich's review of *The Resourceful Earth*. I would also refer you to reviews by Garrett Hardin and Herman Daly of his earlier book *The Ultimate Resource*. Both point out that his errors of logic are of the most elementary kind, undergirded by a remarkable, pervasive, and seemingly willful ignorance of science. I suspect that someone like Wendell Berry would find his proposition that there are no limits to human performance morally naive at best. Certainly a passing acquaintance with the events of the twentieth century would suggest a modicum of caution about describing ourselves as the ultimate anything.

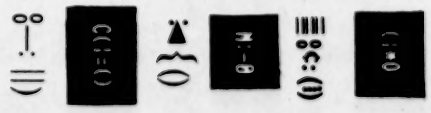
I realize that it is now fashionable to criticize the environmental movement. Sooner or later, however, fashion must yield to reality. Between *Global 2000* and *Resourceful Earth* there is simply no comparison. For all of its flaws the former represents a serious effort to understand world trends, the latter is a political polemic despite several relatively good chapters. . . .

David W. Orr
Fox, Arkansas

Facemaker for telecom

I recently joined the ranks of UNIX-users, and started reading the collection of electronic bulletin boards who are known collectively (with their users) as "Usenet." . . . A bit of "nettiquette" that I found amusing was the convention of using "SMILEYS." These are ;-) :-) B-) :@) 8-) etc. (If you turn your head 90 degrees, they look like smiling faces. #1 is winking, #2 is the "standard" smiley, #3 is wearing glasses, #4 has a fat nose, #5 is wearing granny glasses — many more are possible using keys I don't have on my typewriter, such as "greater than" and "less than" signs for joking and frowning faces.) SMILEYS are placed at the end of a comment which, if said in person, would need to be softened by a smile. It can be difficult to determine when something printed is meant to be a joke or meant to be serious, whether someone is good-naturedly mouthing off or mounting a serious attack, and the presence (or absence!) of a SMILEY is considered a significant piece of information. Example: "That person should be sentenced to a year of real-time programming in COBOL! :-)"

Andrea Frankel
San Diego, California



GATE FIVE ROAD

Gossip

STEWART BRAND: Few business exercises are as wrenching or as clarifying as a work-space move. Between last issue and this most of our operation shifted across Gate Five Road from snazzy, air-conditioned, wall-to-wall carpeted upstairs splendor back to lower-rent rinkydink — our traditional home and style at 27 Gate Five Road. The saving of $2300/month is part of the reward. I hesitate to say it, but another part is being . . . closer to the earth.

Hardly anybody went outdoors before — it was down the steps, across the paved parking lot, and down the street before outdoors was inviting. Now it's just out the door to volleyball, to sitting in the sun, to the garden Kathleen O'Neill established one weekend in the sort-of patio. This being Sausalito waterfront, one of the offices (Dick Fugett's) is a 35-foot boat beached in perpetuity in the garden.

Generaled by Lyn Gray, the whole trauma was accomplished in manageable stages over a couple weeks — the hauling, the selling-off of excess stuff, the shifting of turfs, the paring-down, the work-space personalizing. Whether or not your home is office, office is home and should feel like it. I recently visited a small house occupied by a dozen students in Berkeley. One room was a mess, another a shrine, another a political encampment of posters, another afflicted by pets. Like that.

Currently our most shrine-like room is the former hallway now occupied by the throbbing VAX minicomputer and its lieutenant devices — naked modems, a distinguished-looking tape drive unit, and its own air conditioner because big computers generate a lot of heat and don't like to sweat. Inside the computer is an intensely busy state-of-mind called The WELL — a regional teleconferencing network for the San Francisco Bay Area. Since we wanted to show it off at the West Coast Computer Faire on a Friday, and the VAX arrived that Tuesday, considerable gonzo carpentry by Richard Nilsen, Cliff Figallo, and Jim Stockford was called for, along with headlong midnight programming by Matthew McClure and Brian Harvey (from our co-venturer NETI in Michigan). All in the midst of the office move. It worked out fine.

Regional computer networks like The WELL (it stands for, no snickering, Whole Earth Lectronic Link) are just barely existent now — there's one in Ann Arbor, Michigan, one in Colorado Springs, one coming in Toronto, that's all — but I'll wager they're common in metropolitan areas by this time next year. They are such odd and addicting facilities. It's as if the coffee house, the bookstore, and the telephone had all just been invented and made into one starkly new communication medium. Take the rampant enthusiasm you find on the national networks like CompuServe and The Source, the populist expertise of local computer user groups, and the wild wooliness of bulletin board systems, then add the no-nonsense zeal of a multitude of small businesses looking for the cheapest/best tool for their regional communications, blend, and duck.

The time is passing when the major traffic on such systems is about computers. Already up and buzzing on The WELL even before the software had begun to settle down to minimum useability were conferences on Mothering (hosted by Andrea Sharp), Cars (Joe Troise), How to Grow a Business (Paul Hawken), Music (Jim Stockford), Writers (Troise again), Science Fiction, Legal Aid, Medical Information, Spirituality (Jay Kinney), plus the expectable host of computer conferences — Macintosh, Hackers (Lee Felsenstein), Programming, CP/M, Telecommunicating, Spreadsheets, Databasics, IBM PC, etc. Later come the online event calendars, the online stores, online publishing, and God knows what else. They're a kind of city. The nice part is, you don't have to live there or commute there to get the city service or the city rush.

The proliferation of these systems will (partly) depend on how rapidly and widely the phone companies introduce "packet switching" — a low-cost means of regional computer communication. The brand

Don Ryan

Dick "Poopdeck" Fugett, general purpose clerk, accepts command of *WER* flagship *The Irate Subscriber*.

Point/Whole Earth Consolidated Report

January and February 1985

Income

Subscriptions & Renewals	78,523
Back Issues	840
Mailing List	10,418
Software Catalogs	15,439
Direct Distribution	12,519
National Newsstand	13,639
Syndicated Column	5,980
Best of CQ	5,000
Contributions	275
Interest	2,029
Miscellaneous	2,595
Total Income	**147,257**

Expenses

Salaries:	
Editorial	18,201
Production	15,643
Circulation	7,396
Office	11,249
Research	13,268
Payroll Taxes/Benefits	5,898
Writers/Contributors	7,907
Supplies/Research	2,381
Magazine Printing	32,821
Subscription Promotion and Fulfillment	16,659
Direct Distribution	590
National Newsstand	6,711
Mailing List Fulfillment	1,344
Software Catalog	
Editorial/Contributors	0
Fulfillment	11,690
Printing/Production	0
Syndicated Column	2,835
NETI/WELL Expense Reimbursement	-13,500
Best of CQ	750
Equipment Rent/Maintenance	614
Telephone/Networks	4,997
Postage	1,636
Auto/Travel	-1,115
Building Rent/Maintenance Utilities/Moving	10,121
Legal/Professional	125
Interest/Bank Charges	2,130
Miscellaneous Operating Expenses	189
Purchase Assets/Principal on Lease Payments	3,534
Total Expenses	**164,074**
Profit/Loss	**-16,817**

new (May 1985) packet-switching facilities in the San Francisco Bay Area permit people from 20 miles north of Sausalito to 40 miles south to get phone access to The WELL for only $1 an hour (at regular phone rates it could be as high as $15/hour otherwise). Add The WELL's charges of $8/month and $2/hour, and you've got cheap access to a lot of interesting people and services and computer power.

Alas, until The WELL is hooked into a national network of such regional systems (could well happen), it's expensive for distant users. If you're out there and want to sample anyway, have your computer phone up 415/332-6106, and respond to "login:" with ***newuser****, be ready to tell the system your VISA or MasterCard number, and you'll be right in. The same goes for Bay Area users if you want instant gratification, but if you want the cheaper packet switching numbers first, call us at 415/332-1716 and we'll tell you what number to use for your area.*

Does all this portend more computer stuff in the ***Whole Earth Review?*** *I doubt it; better computer stuff maybe, but in the magazine as in life, computers are blending in with other tools, some traditional, some even more glitzy-popular, like VCRs and video discs, some providing new advantage to small business, like laser printers. Computers are being assimilated. None too soon. The mind WAS running away from the body.*

Whole Earth Review Update

KEVIN KELLY: A couple of corrections from the last issue. We spelled Bernard Kamoroff's name correctly once, and incorrectly twice (p. 42); it's spelled here as it should be. Adam Levine suggested the Cardboard Dulcimer Kits (p. 57) but was not credited. The useful ***Free Campgrounds*** *(p. 67) is currently out of print.*

Back Issues/Further Issues

The quickest way to order back issues of this magazine is not from us but from Whole Earth Access (see address below). Each ***WER*** back issue is $3, postage paid. ***CoEvolution Quarterly*** issues are $3.50 each, postage paid, or $10 for four. All 29 available **CQ** issues are sold as a set for $35, postage paid.

Subscriptions to ***Whole Earth Review*** are $18 for one year (6 issues) and $33 for two years (12 issues). Foreign rates are $22 for one year and $41 for two years. Send your order with payment to: ***Whole Earth Review***, Box 27956, San Diego, CA 92128. For VISA or MasterCard orders, call 800/321-3333 (in California: 800/354-8400).

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INDEX 1984

by Michael Haldeman

This index covers the last three issues of **CoEvolution Quarterly** (#41, 42, 43) as well as the first issue of **Whole Earth Review** (#44). It also includes the three (and only three) issues of **Whole Earth Software Review** (abbreviated here as SR1, SR2, SR3). All software items are CAPITALIZED; books and movies are *italicized*; subjects are in **bold**.

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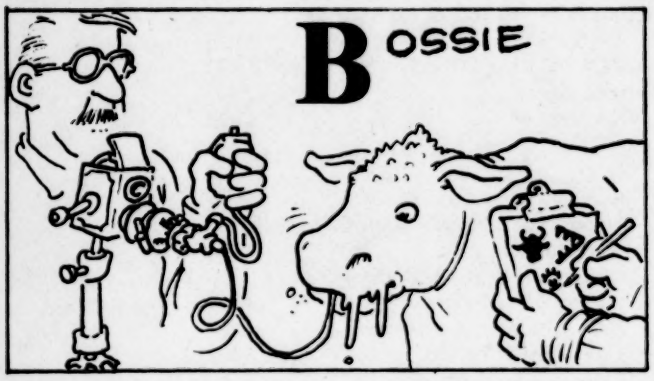
ARCANE

AA: a model spiritual organization.**
Burning, Martha 42:74
Abraham, Horst
Skiing right 44:68
Access to World War II.**
Fugett, Dick 41:54
Accounting — Software Reviews
CHAMPION. SR1:128
MANAGING YOUR MONEY. 44:85
MASTER BUILDER. SR3:77
Acting
Indigenous theater. 43:100
Adobe — Book Review
Racing alone 41:61
Adoption — Book Review
Penguin adoption handbook 43:43
ADVANCED SPACE GRAPHICS SR2:85
Adventures of Buckaroo Banzai
Good movies: fall. 43:118
Advertising
What they left out. SR3:37
AE PRO SR2:20
Against All Odds
Good movies: spring. 41:114
Agent Orange
Note on recent development in Agent Orange/herbicide battle. 41:75
Agent Orange — Book Review
Waiting for an army to die 41:75
Agriculture
Land wisdom vs. lab success. 43:52
Agriculture — Book Review
Agroecology 43:61
Bioshelters, ocean arks, city farming 43:91
Agroecology 43:61
Ainis, Jeffrey
Composing music 43:109
Airplanes — Book Review
Just in case 44:66
Air-Vapour Barriers 41:61
Albrecht, Bob*
LOGO for kids: start with sprites. SR3:85
Alcoholics Anonymous
AA: a model spiritual organization. 42:74
Alexander, Christopher
Uncommon bench. 43:78
ALGEBRA ARCADE SR2:63
Allred, Gordon T.
Kamikaze 41:54
Alphabet 41:116
Alternative Education
Home study goes legal. 42:110
Alternative Education — Book Review
Better than school 42:113
Alternative Energy — Periodical Review
Old friends growing up department. 42:79
Alternative Energy Sourcebook 41:74
Alternative Health Guide 42:23
Alternative Service — Organizations — Canada
Katimavik. 42:109
Altieri, Miguel A.
Agroecology 43:61
Alzheimer's Disease 43:33
Alzheimer's Disease
Life as a stream of consciousness: Alzheimer's disease. 43:22
Alzheimer's Disease — Book Reviews
Alzheimer's disease 43:33
Alzheimer's family care guide 43:33
Amadeus
Good movies. 44:73
Ambivalent miseries of personal computing.**
Kleiner, Art 44:6
American Community Gardening Association 41:76
American Currents 41:79
American Diaries of World War II 41:56
Amiga Computers
Inside. SR2:65
Amnesty International
Torture in the eighties 42:38
AMODEM
Telecommunicating update. SR3:41
Amsterdam, Ezra A.
Take care of your heart 42:12
Anatomy — Book Reviews
Facts of life 44:61
Human body 44:61
And now for something completely different.**
Dalton, Richard SR1:42
And the Ship Sails On
Good movies: spring. 41:114
Anderson, Walter Truett
Upstart spring 41:122
Angermeyer, John
CP/M bible SR3:101
Animals
Elephants. 41:80
Animated Films — Software Review
MOVIEMAKER. SR3:113
Anthropology
Towards a theory of history. 41:94
Anti-Nuclear Movement — Book Review
Facing the danger 42:66
Antler*
Raising my hand. 42:114
Appalachia — Periodical Review
Katallagete 42:109
APPLE ACCESS II SR3:40
CompuServe's boon for free-software lovers. 44:93
Apple Computers
Writing tools. SR1:8
APPLE LOGO SR3:88
Enabling computers. SR2:48
APPLE LOGO TOOLKIT SR3:88
APPLE LOGO II SR3:89
Apple Macintosh
Breaking the chains that bind. SR2:31
First look at Macintosh software. SR3:106
Not a toy but the real thing. SR2:33
PC vs. Macintosh. SR2:40
Peter McWilliams minority report. SR2:36
Apple Macintosh — Periodical Reviews
Macworld SR3:111
St.Mac SR3:111
Apple Macintosh Book SR3:100
Apple II User's Guide SR3:100
Apple IIc
Beautifully crafted lightweight computer. SR3:104
Inside. SR2:65
Apple IIc — Book Review
Going places with the new Apple IIc SR3:101
APPLE WRITER
Writing tools. SR1:8
Aquaculture — Book Review
Freshwater aquaculture book 44:59
ARCADE MACHINE SR3:72
Archaeology 42:104
Architects of Fear 42:38
Architecture
Computer-assisted design (CAD) programs. SR3:79
"Computerized architractor." SR3:80
Uncommon bench. 43:78
Architecture — Book Reviews
Air-vapour barriers 41:61
Architecture and community 42:84
Commonsense architecture 44:71
Compact house book 41:60
Super solar houses 41:73
Superinsulated house 42:85
Arctic Supply, Inc. Insulated glass. 41:74
Armstrong, David
Insider's guide to health foods 42:12
Art
Folk Art Finder 43:128
Paintings of Henry Miller 42:123
Trail of rising and falling birds. 42:1
Artificial Intelligence
Replaced by a computer? An interview with Nils Nilsson. SR2:116
As Nature Intended 43:43
ASAP FIVE SR3:22
ASCII EXPRESS (AE PRO) SR2:20
Astrologers
Busting fortune tellers. 42:52
Astronomy
Endangered night skies. 43:12
Astronomy — Book Reviews
Astronomy with binoculars 43:16
Field guide to the stars and planets 43:16
Living the sky 43:18
Skyguide 41:92
Sunsets, twilights, and evening skies 44:57
Atari Computers
Writing tools. SR1:8
Atari Computers — Book Review
Your Atari computer SR3:100
ATARI LOGO SR3:87
ATARILAB SR3:120
ATARIWRITER
Writing tools. SR1:8
Atlases — Book Reviews
Times atlas of the oceans 41:92
War atlas 41:58
AT&T
Next phone company. SR1:77
Audubon Society Field Guide to North American Seashore Creatures 41:79
Augarten, Stan
State of the art. 42:115
AURA
Will we love them in December as we did in May? 44:86
AUTOCAD SR2:84
Automobiles
Difference between writing and building racing engines. 42:80
Tercel lives on. 41:69
Vanlets. 41:70
Automobiles — Book Reviews
Car buyer's art 43:98
Secrets of the show cars 41:111

Autopsies
Sacred and the dead. 41:4
Autopsies — Poems
Autopsy of a murdered man. 43:34
Autopsy of a murdered man.**
Massion, Charlea 43:34
Aviation — Education — Book Review
From the ground up 42:78
Aviation — Education — Software Review
FLIGHT SIMULATOR. SR1:107
Axelrod, Robert
Evolution of cooperation 43:71



Baby LOGOs.**
Scarola, Robert and Pamela Sharp SR3:90
Back Chair 44:64
Back office: post-industrial factories.**
Calthorpe, Peter 44:30
Backpacking — Book Review
On foot through Europe 42:76
Backsaver 44:64
Bacon, Joe*
In praise of funerals. 43:38
Bad seeds.**
Pappas, Charles 42:60
Baer, Steve*
Push stick. 43:92
Bailey, Ronald H.
Partisans and guerrillas 41:56
Bailey, Vicky
Making pollution prevention pay 41:69
Bair Chair
Liberating wheelchairs. 43:93
Baker, John F.
Small Press 43:112
Balans Chairs 44:64
Baldwin, J.*
Catalytic woodstoves. 43:89
Vanlets. 41:70
BANK STREET WRITER 44:96
Banks and Banking — Book Review
In banks we trust 42:65
Barden, Albert A. III
Finnish fireplace construction manual 1984 43:88
Barney, Clifford*
Not a toy but the real thing. SR2:33
Barnstone, Willis
Other Bible 43:129
Barstow, Daniel*
Putting intelligence into educational programs. SR2:62
Barter Network Handbook 44:63
Bates, Barbara
Guide to physical examination 41:13
Bateson, Mary Catherine
With a daughter's eye 43:20
Baths and Bathing — Equipment and Supplies
Soft bathtubs. 43:87
Batie, Sandra S.
Soil erosion 42:105
Batson, Wade T.
Genera of the eastern plants 41:78
Genera of the western plants 41:78
B.C.'S QUEST FOR TIRES SR3:69
Beach, Mark
Editing your newsletter 43:112
Beautifully crafted lightweight computer.**
Zito, Tom SR3:104
Beckel Canvas Products 42:77
Becoming a Writer 41:117
Becoming a part of Gaia.**
Krapfel, Paul 43:4
Beekman, George
Commodore 64 home companion SR3:99
Before You Build 41:60
Behavior — Book Review
Don't shoot the dog! 41:124
Benches
Uncommon bench. 43:78
Benson, Sheila*
Good movies: spring. 41:114
Good movies: summer. 42:124
Good movies: fall. 43:118
Good movies. 44:73
Bering Strait
US/USSR bi-national research park in the Bering Strait. 43:70
Best delay excuse yet, but maddening.**
Gray, Lyn and Stewart Brand 44:97
Best user's guides.**
Kleiner, Art SR3:99
Better Than School 42:113
Between Sacred Mountains 43:19
Beyond hyphenization.**
Weston, Anthony 41:30
Beyond the busy signal: new kinds of voice services.**
Kleiner, Art SR1:85
Beyond Vision 44:57
Bicycles and Bicycling
Alex Moulton bicycles. 41:111
Hon Folder. 44:68
Bicycles and Bicycling — Book Reviews
Bicycle transportation. 41:110
Bicycling book. 41:110
Bicycling the Pacific coast. 43:98
Mountain bike book. 44:68
Bicycles and Bicycling — Equipment and Supplies
Sachs Hub Brakes. 42:82
Big is beautiful?**
Dalton, Richard SR1:52
Biology — Book Reviews
Coevolution of climate and life. 42:95
Practical guide for the amateur naturalist. 42:96
Bioregions — Book Review
Experiments in bioregionalism. 43:61
Bioshelters, Ocean Arks, City Farming 43:91
Birdwatching — Book Review
Field guide to the birds of North America. 44:58
Bisignani, J.D.
Japan handbook. 41:112
Biting the hand that feeds.**
Brand, Stewart 44:5
Black, George
NACLA report on the Americas. 42:39
Black Sheep Review 42:127
Blindness
Enabling computers. SR2:48
Blue Cloud, Peter
Elderberry flute song. 42:87
Blue Hole Sunburst 44:69
Boats and Boating
Canoecraft 44:69
Voyage of the first ocean pickup. 41:62
Body & Soul
Politics of religion. 42:67
Bolles, Edmund Blair
Penguin adoption handbook. 43:43
Book of Edible Nuts 44:59
Bosco, Freddy*
Who do you think you are? 43:130
BOSS
Writing tools. SR1:8
Botany — Book Reviews
Genera of the eastern plants. 41:78
Genera of the western plants. 41:78
Boulton, Jane
Opal. 43:128
Bounty
Good movies: summer. 42:124
Bove, Tony*
Public domain software. SR1:118
Transparent onion. SR1:22
Bove, Tony
User's Guide. SR3:102
Bowden, Charles
Street signs Chicago. 41:28
Bowen, Charles
How to get the most out of CompuServe. SR3:103
BPS GRAPHICS SR2:83
Braille — Software Review
Enabling computers. SR2:48
BRAILLE-EDIT
Enabling computers. SR2:48
Brand, Stewart*
Biting the hand that feeds. 44:5
How computers made this article. SR1:34
Software taxonomy. SR1:4
Transparent onion. SR1:22
Whole Earth Software Catalog version 1.1. 44:74
Why and how this magazine is non-profit. SR1:125
Writing on the Adam. SR2:42
Writing tools. SR1:8
Writing tools update. SR2:54
Brande, Dorothea
Becoming a writer. 41:117
Break.**
Kleiner, Art SR2:20
Breaking in.**
Thomas, Levi SR3:60
Breaking the chains that bind.**
Spezzano, Charles SR2:31
Breggin, Peter Roger
Psychiatric drugs. 41:13
Brenneman, Richard J.
Fuller's earth. 42:97
Brewster, E. Thomas
Language acquisition made practical. 41:122
Bringing the IBM PC up to snuff.**
Davis, Frederic E. SR1:56
Brigade Quartermaster 42:28
British Sports Association for the Disabled
Water sports for the disabled. 42:13
Broadcasting — Periodical Review
Popular Communications. 42:115
Broadway Danny Rose
Good movies: spring. 41:114
Brodie, Leo
Starting FORTH. SR1:97
Brown, Bill
Packin' in. 43:99
Brown, Bruce
Mountain in the clouds. 42:106
Brown, Lester R.
State of the world. 41:59
Brown, Robert McAfee
Theology in a new key. 41:33
Budget — U.S. — Book Review
War on waste. 43:73
Building — Catalog
Builders booksource 43:86
Building Industry and Trade
Computer-assisted design (CAD) programs. SR3:79
"Computerized architractor." SR3:80
When you come to the barnraising, bring your micro. SR3:74
Building Industry and Trade — Software Reviews
CONSTRUCTION MANAGEMENT SOFTWARE. SR3:75
EXACT DIMENSIONS! SR3:80
MASTER BUILDER. SR3:77

Building Materials — Book Review
New science of strong materials. 43:87
Building the Alaska Log Home 43:86
Building Your Own House 43:86
Burklo, Jim*
Coffee hour. 41:34
Burnham, David
Rise of the computer state. 44:38
Burning, Martha*
AA: a model spiritual organization. 42:74
Burying Jed Kesey.**
Kesey, Ken 42:4
Bush Computer Furniture SR1:124
Business
Surviving in small business. 41:14
Virtual business. SR2:27
Busting fortune tellers.*
Schultz, Ted 42:52
Butchers and Butchering — Book Review
How to be your own butcher. 41:21
Butter Battle Book 42:29

Canoecraft. 44:69
Capozza, Frank*
Trolls under the bridge. SR3:30
Capra, Fritjof
Green politics. 43:72
Car Buyer's Art 43:98
Caribbean — Periodical Review
No middle ground. 41:59
Carlston, Doug*
Entertainment in educational software. SR1:106
Carroll, Ricki and Robert
Cheesemaking. 44:65
Cart Book 41:69
Cartoon Guide to Genetics 43:20
Cartoons
From the sketchbook of James Donnelly. 41:1
Castleman, Michael
Crime free. 42:65
Cat fur in the disk drive.**
Dalton, Richard SR2:104
Catalytic woodstoves.**
Baldwin, J. 43:89
Catholic Church
Is anything sacred? 42:68
Cats
Meetings with remarkable cat ladies. 42:24
Caverly's Guide to Direct Mail Advertisers SR1:112
Censorship — Great Britain
Information quarantine in England. 42:104
Chairs
Weird chairs. 44:64
CHAMPION SR1:128
Chapman, Eugenia
Clean your house and everything in it. 42:27
Chartrand, Mark R.
Skyguide. 41:92
Cheesemakers' Journal 44:65
Cheesemaking Made Easy 44:65
Chemistry — Book Review
Condensed chemical dictionary. 41:118
Children
Teach 'em work skills while they're young. 44:95
Children — Book Reviews
Children of war. 41:58
Silver threads among the gold. 41:31
Children's Literature — Book Review
Butter battle book. 42:29
Children's Literature — Software Review
HEY DIDDLE DIDDLE. SR1:99
Chin, Wayne*
DBASE Phoenix. 44:83
China — Description and Travel
Crime and capitalism in China. 42:30
China — Book Reviews
China off the beaten track. 41:112
Chomsky, Noam
Washington connection and Third World fascism. 41:53
Choose Me
Good movies. 44:73
Christianity — Book Review
Other Bible. 43:129
Churches
Coffee hour. 41:34
City Life — Book Review
Street signs Chicago. 41:28
C-Language
Does this foreshadow MacUnix? 44:94
Clapham, Adam
As nature intended. 43:43
Clary, Patrick*
The Pain. 43:35
Classics of Western Spirituality 44:56
Clean Your House and Everything In It 42:27
Climate — Book Review
Coevolution of climate and life. 42:95
Clothes for Disabled People 44:64
Clothing — Catalog
Brigade Quartermaster. 42:28
Clotilde
Imports by Clotilde. 41:119
Clowns and Clowning — Book Review
Clown. 41:123
Codrescu, Andrei
Exquisite Corpse. 42:126
Coevolution of Climate and Life 42:95
Coffee hour.**
Burklo, Jim 41:34
Coffin.**
Walker, George 42:10
Cohen, Stephen
Termination trap. 43:45
Colbert, Treacy
Premenstrual syndrome. 42:22
Colby Keyboard
Keyboards for the PC. SR1:60
Cold and the Dark 43:21
Coleco Adam
Inside. SR2:65
Writing on the Adam. SR2:42
Colinvaux, Paul A.*
Towards a theory of history. 41:94
Columbia MPC SR1:71
Comfort and Joy
Good movies: fall. 43:118
Comic Strip
Disconnected. 42:139
Comic Books, Strips, Etc. — Book Reviews
Cartoon guide to genetics. 43:20
Washingtoon. 41:42
COMMANDER ULTRA TERMINAL SR3:115
Commodore BONUS PACK SR3:118
COMMODORE LOGO SR3:87
Commodore Computers
Inside. SR1:65
Writing tools. **SR1:8**
Commodore 64 — Book Review
Commodore 64 home companion. SR3:99
Commodore 64: first disposable computer?**
Seward, John SR2:43
Commonsense Architecture 44:71
Communication Outlook SR2:52
Communications — Periodical Reviews
Popular Communications. 42:115
Community Garden Book 42:106
Compact House Book 41:60
Compaq
My daily affairs with a Compaq. SR1:64
Complete Book of Sewing Short Cuts 41:118
Complete Guide to Bed & Breakfasts, Inns & Guesthouses 44:67
Complete Handbook of Personal Computer Communications SR2:21
Complete Handbook of Solar Air Heating Systems 41:73
Complete Shade Gardener 42:107
Complete Walker III 44:67
Composing Music 43:109
CompuServe — Book Review
How to get the most out of CompuServe. SR3:103
CompuServe Special Interest Groups (SIGs)
Computer conferencing systems. SR2:24
CompuServe's boon for free-software lovers.**
Kleiner, Art 44:93
Computer-Aided Design (CAD)
Computer-assisted design (CAD) programs. SR3:79
Drawing with a desktop computer. SR2:76
Enabling computers. SR2:48
Computer-assisted design (CAD) programs.**
Troise, Joe SR3:79
Computer Book Review SR3:102
Computer Bulletin Boards
Telecommunicating update. SR3:41
Computer Bulletin Boards — Book Review
Computer phone book. SR2:21
Computer Chips
Inside. SR1:65
Computer Conferencing
Computer conferencing systems. SR2:24
Virtual business. SR2:27
Computer conferencing systems.**
Kleiner, Art SR2:24
Computer Games
Computer games make reading fun. SR1:109
Entertainment in education software. SR1:106
Games and learning for children. SR1:99
Learning/playing. SR1:98
New space invaders — is computer-video technology pushing the family out of the home? SR1:103
Rash of McGames. 44:79
Computer Games — Software Reviews
ARCADE MACHINE. SR3:72
B.C.'S QUEST FOR TIRES. SR3:69
EXECUTIVE SUITE. SR3:72
Featured program: T.REX. SR2:1
FLIGHT SIMULATOR. SR1:107
HEROISM IN THE MODERN AGE. SR3:70
Learning/playing. SR2:58
MS. PAC-MAN. SR1:104
M.U.L.E. SR1:105
PINBALL CONSTRUCTION SET. SR1:102
PITS AND STONES. SR3:70
PLANETFALL. SR1:111
POGO JOE. 44:80
QIX. SR3:69
RUN FOR THE MONEY. 44:80
SUNDOG. 44:80
WORD CHALLENGE. SR1:129

Computer Graphics — Software Reviews
DIGITAL PAINTBRUSH SYSTEM. 44:91
MACDRAW. SR3:108
PICTURE-IT. 44:91
QUICK-DRAFT. 44:92
Spawning of LUMENA. 44:90
VIDEOSHOW. 44:91
Computer Industry and Trade
Breaking in. SR3:60
Conroy La Point. SR1:114
800-SOFTWARE. SR1:115
Genealogy project. SR3:52
Guenther Computer Products. SR1:115
Inmac. SR1:116
Inside. SR1:65
Inside. SR2:65
Inside. SR3:65
Is it stealing? SR2:122
Mail-order buying primer. SR1:112
Piracy and backup in the Fortune 1000. SR2:126
Skull and crossbones flying high. SR2:124
Software developer's viewpoint. SR2:123
Software taxonomy. SR1:4
Summer price crash. 44:76
Total Access. SR1:117
What they left out. SR3:37
Why the IBM PC is a lousy standard for the industry. SR1:50
Wilson's Computer Business. SR1:113
Computer Industry and Trade — Book Reviews
Caverly's guide to direct mail advertisers. SR1:112
Fire in the valley 43:21
Hackers 43:21
Stories behind the genealogy: two books. SR3:58
Computer Keyboards
And now for something completely different. SR1:42
Keyboards for the PC. SR1:60
Organize your computer environment SR3:50
Computer Literacy Bookshop
"Or from Computer Literacy." SR1:131
Computer Networks
Computer conferencing systems. SR2:24
Four reasons to try computer networking. SR1:80
Mr. Download: an interview with William von Meister. SR1:88
Personal effects of networking. SR2:22
Shame of word processors. SR3:42
Computer Networks — Book Review
Rise of the computer state. 44:38
Computer Networks — Software Reviews
APPLE ACCESS II. SR3:40
Electronic mail programs. SR2:22
IN-SEARCH. SR3:38
PERSON-TO-PERSON. SR3:40
PFS:ACCESS. SR3:38
Computer Phone Book SR2:21
Computer Printers
HP Thinkjet Printer. SR2:103
Printer pro's picks. SR2:100
Computer Programming
Does this foreshadow MacUnix? 44:94
Languages for thinking about thinking. SR3:82
Putting intelligence into educational programs. SR2:62
Computer Programming — Book Review
Starting FORTH. SR1:97
Computer Programming — Software Reviews
DESK ACCESSORY MOVER. 44:94
FDUMP. 44:94
Organize your computer
"Computerized architractor."**
Troise, Joe SR3:80
Computers — Applications — Book Review
Complete handbook of personal computer communications. SR2:21
Computers — Applications — Periodical Review
Communication Outlook. SR2:52
Enabling computers. SR2:48
Computers — Book Reviews
Apple Macintosh book. SR3:100
Apple II user's guide. SR3:100
Best user's guides. SR3:99
Commodore 64 home companion. SR3:99
Going places with the new Apple IIc. SR3:101
Praise for manuals. SR3:102
Radio Shack notebook computer. SR3:100
Second self. 44:39
User-friendly guide to lap portables. SR3:100
Your Atari computer. SR3:100
Your IBM PC made easy. SR3:101
What's worth reading SR2:113
Computer Book Source
"Or from Computer Literacy." SR1:131
Computers — Equipment and Supplies
ATARILAB. SR3:120
Bush Computer Furniture. SR1:124
Complete Model 100. 44:76
Inside. SR2:65
Keyboards for the PC. SR1:60
Modems. SR2:19
Of mice and cheese. SR1:44
Computers — Health Hazards
Six grave doubts about computers. 44:10
Computers — Machines
Ambivalent miseries of personal computing. 44:6
Biting the hand that feeds. 44:5
Breaking the chains that bind. SR2:31
Bringing the IBM PC up to snuff. SR1:56
Commodore 64: first disposable computer? SR2:43
Electronic notebooks. SR2:87
IBM PCjr: the answer to why anyone needs a home computer. SR2:37
Inside. SR3:65
Likeable but odd. SR2:40
Lookalike/actalike/workalike club. SR1:63
Mindset. SR3:121
Monkey trap or the mystical engine? 44:1
Mythinformation. 44:22
New home computers. SR2:30
Not a toy but the real thing. SR2:33
PC vs. Macintosh. SR2:40
Peter McWilliams minority report. SR2:36
Playing hardball. SR1:54
Radio Shack Color Computer. SR3:115
RAM. SR1:87
RAM. SR2:75
RAM. SR3:81
Replaced by a computer? An interview with Nils Nilsson. SR2:116
Six grave doubts about computers. 44:10
Software dating game. SR1:6
Why the IBM PC is a lousy standard for the industry. SR1:50
Writing on the Adam. SR2:42
Computers — Applications
Back office: post-industrial factories. 44:30
"Computerized architractor." SR3:80
Enabling computers. SR2:1
Enabling computers. SR2:46
Housebound. 44:21
One picture is worth 106 words. SR2:96
Organizing programs as mind-extension tools. SR3:28
Teach 'em work skills while they're young. 44:95
Telecommunicating. SR2:6
Virtual business. SR2:27
When you come to the barnraising, bring your micro. SR3:74
Computers — Magazines
Softalk, we hardly knew ye. *44:75*
Computers — Maintenance
Cat fur in the disk drive. SR2:104
Computers — Periodical Reviews
Computer Book Review. SR3:102
User's Guide. SR3:102
Condensed Chemical Dictionary 41:118
CONDOR III SR3:21
Conroy La Point SR1:114
Consciousness Movement — Humor
Snores of perception. 43:114
Consciousness Movement — Organizations
Waiting for the sting. 41:36
Constable, Robin
As nature intended. 43:43
CONSTRUCTION MANAGEMENT SOFTWARE SR3:75
Consultants and Consulting
Last month I couldn't spell "consultant" and now I are one. SR3:64
Consumer's Guide to Earth Sheltered Housing 44:70
Contemporary Life
Who do you think you are? 43:130
Cookbooks — Catalog
Jessica's Biscuit cookbook catalog. 43:44
Cooking — Periodical Review
Garden Gourmet. 43:65
Coombs, Don H.
Mushroom: the Journal of Wild Mushrooming. 43:63
Cooperatives and Collectives — Book Review
Partnering. 42:28
COPY II PC SR3:132
COPY II PLUS SR3:132
Corona Computers
Inside. SR2:65
Corona Data Systems PC SR1:70
Corporations — Book Review
Fear at work. 43:73
Correspondence — Periodical Review
Letter Exchange. 42:116
Couper, Alastair
Times atlas of the oceans. 41:92
Courlander, Harold
Hopi voices 42:86
Courtice, Katie
Alzheimer's disease. 43:33
Cowan, Robert*
Transparent onion. SR1:22
Virtual business. SR2:27
CROSSTALK SR2:18
CP/M
Writing tools. SR1:8
CP/M Bible SR3:101
Creativity
RAM. SR1:87
Credit Societies
Huis and means in Taiwan. 41:18
Crime and capitalism in China.**
Schell, Orville 42:30
Crime and Criminals
Bad seeds 42:60
Good Samaritan crimes. 42:59
Crime Prevention — Book Review
Crime free. 42:65
Cripple Liberation Front Marching Band Blues 42:13
CRISP
Cheapest may be best. 44:82
Cushiontub
Soft bathtubs. 43:87
CYBERLOGO TURTLE SR3:91

DOLT

Dairy Products — Book Review
Home dairying. 44:65
DAISY PROFESSIONAL
Cheapest may be best. 44:82
Dalton, Katharina
Premenstrual syndrome. 42:22
Dalton, Richard*
And now for something completely different. SR1:42
Big is beautiful? SR1:52
Cat fur in the disk drive. SR2:104
Electronic notebooks. SR2:86
Enabling computers. SR2:1
Inside. SR2:65
Inside. SR3:65
Is it stealing? SR2:122
Last month I couldn't spell "consultant" and now I are one. SR3:64
Lookalike/actalike/workalike club. SR1:63
New home computers. SR2:30
Sales Edge: selling in the twilight zone. SR2:108
Seequa Chameleon. SR1:73
Software dating game. SR1:6
Summer price crash. 44:76
Transparent onion. SR1:22
Why the IBM PC is a lousy standard for the industry. SR1:50
Will the real PC DOS please stand up? SR1:52
Daly, Kathleen
Under the gun. 41:42
Damn Good Resume Guide 42:27
Dardick, Geeta*
Home study goes legal. 42:110
DATA CAPTURE IIe SR2:17
DATA+ SR3:17
Database Management Programs
DBASE Phoenix. 44:83
Organizing programs as mind extension tools. SR3:28
Trolls under the bridge. SR3:30
Database Management Programs — Book Review
Everyman's database primer. SR3:103
Database Management Programs — Software Reviews
ASAP FIVE. SR3:22
CONDOR III. SR3:21
DATAFAX. SR3:25
DATA+. SR3:17
DB MASTER 4 PLUS. SR3:15
DBASE II. SR3:18
DBPLUS. SR3:20
FILEVISION. 44:83
HABADEX. SR3:106
MAXTHINK. 44:84
NOTEBOOK. SR3:27
OFFIX. SR3:13
Organizing. SR3:7
PC-FILE III. SR3:13
PERSONAL CARD FILE. SR3:15
PFS:FILE. SR3:10
PFS:REPORT. SR3:11
PFS:SOLUTIONS. SR3:12
QUICKCODE. SR3:20
R:BASE EXTENDED REPORT WRITER (XRW). SR3:21
R:BASE 4000. SR3:21
SEQUITUR. SR3:23
SORT2+. SR3:17
Something for everyone. SR1:47
SUPERFILE. SR3:26
THINKTANK. SR3:27
VERSAFORM. SR3:16
What we use ourselves: R:BASE 4000. SR2:131
DATAFAX SR3:25
Dataspeed
Inside. SR2:65
Davies, Owen
Omni complete catalog of computer software. 44:75
Davis, Fred*
Transparent onion. SR1:22
Davis, Frederic E.*
Bringing the IBM PC up to snuff. SR1:56
DB MASTER 4 PLUS SR3:15
DBASE Phoenix. 44:83
DBASE II SR3:18
DBASE II — Book Review
Everyman's database primer. SR3:103
DBASE III
DBASE Phoenix. 44:83
DBLCOM SR2:14
DBPLUS SR3:20
Dearing, James W.
Making money making music. 44:63
Death and Dying
Burying Jed Kesey. 42:4
In praise of funerals. 43:38
Sacred and the dead. 41:4
Death and Dying — Book Review
Meetings at the edge. 43:129
Decentralization
Six grave doubts about computers. 44:10
Defending the Miskitos.**
Ortiz, Roxanne Dunbar et al. 43:74
Delancey Street*
Good Samaritan crimes. 42:59
DELTA DRAWING
Program credits. SR3:98
Democratic Promise 41:43
Dentists and Dentistry — Book Review
Where there is no dentist. 43:37
Design
Uncommon bench. 43:78
DESK ACCESSORY MOVER 44:94
DESK ORGANIZER
Will we love them in December as we did in May? 44:86
De Sola Pool, Ithiel
Forecasting the telephone. 44:38
DESQ
Inside. SR1:65
Will we love them in December as we did in May? 44:86
Deutsch, Howard David
Getting into America. 44:66
DeVoney, Chris
MS-DOS user's guide. SR3:102
Diagnosis — Book Review
Guide to physical examination. 41:13
Diamond, Gerald C.*
Software developer's viewpoint. SR2:123
Dickson, Murray
Where there is no dentist. 43:37
Dictionaries — Book Review
Oxford-Duden pictorial English dictionary. 43:109
Difference between writing and building racing engines.**
Ingham, Harry and Larry 42:80
DIGITAL PAINTBRUSH SYSTEM 44:91
Dillon, Mark K.*
One picture is worth 106 words. SR2:96
Direct-Mail Selling
See Mail-Order Business
Directory of Sail Training Ships and Programs 41:123
Disconnected.**
Mitcham, Mark 42:139
DISPLAYWRITE2 SR3:48
DiZazzo, Raymond
Car buyer's art. 43:98
Dodge Caravan
Vanlets. 41:70
Dodge Colt Vista
Vanlets. 41:70
Does this foreshadow MacUnix?**
McClure, Matthew 44:94
Donnelly, James*
From the sketchbook of James Donnelly. 41:1
Don't Shoot the Dog! 41:124
DR. LOGO SR3:88
Dr. Seuss
Butter battle book. 42:29
Drawing with a desktop computer.**
Jadrnicek, Rik SR2:76
Dressmaker's Dictionary 41:118
Drugs (Pharmaceutical) — Book Review
Psychiatric drugs. 41:13
DRUM-KEY SR3:118
DSA Pejse Stoves 42:84
Dulcimer Players News 42:127
Durrell, Gerald
Practical guide for the amateur naturalist. 42:96
Dwelling.**
Illich, Ivan 41:22
Dysgraphia and dyslexia
Word processing computers as remedial writing tools. SR1:40

ENTHUSIASM

Eagle Computers
Inside. SR2:65
Eagle Eye Maps
Traveler's maps. 42:76
Earth
Becoming part of Gaia. 43:4
Endangered night skies. 43:12
Earth Garden 41:77
Earth-Sheltered Buildings — Book Review
Consumer's guide to earth sheltered housing. 44:70
EASEL
Spawning of Lumena. 44:90
Ebbert, Suzanne
Rodale product testing report: insulation materials. 43:90
Eccleston, John
American Currents. 41:79
Echo II Speech Synthesizer
Enabling computers. SR2:48
Economic Conditions — Great Britain
Grey-haired oil sheik of Downing Street. 42:48
EcoTheater
Indigenous theater. 43:100
Editing Your Newsletter 43:112
Education
Entertainment in educational software. SR1:106
Home study goes legal. 42:110
How to grade your school. 41:120
Register for International Service in Education. 41:123
Education — Poem
Raising my hand. 42:114

Education — Software Reviews
MAGIC SPELLS. SR1:109
ROCKY'S BOOTS. SR1:100
Ehrenreich, Dixie
Women in Forestry. 42:105
Ehrlich, Paul*
Nuclear winter. 42:87
Cold and the dark. 43:21
800-SOFTWARE SR1:115
Elderberry Flute Song 42:87
Electricity — Equipment and Supplies
Heart Interface Inverters. 44:70
Electronic Information Exchange System (EIES)
Computer conferencing systems. SR2:24
Using EIES. SR1:31
Electronic mail programs.**
Kleiner, Art SR2:22
Electronic notebooks.**
Dalton, Richard SR2:86
Elephants.**
Williams, Heathcote 41:80
Eliach, Yaffa
Hasidic tales of the holocaust. 41:33
Elman, Barbara*
Transparent onion. SR1:22
Elser, Smoke
Packin' in. 43:99
EM Electronics Co.
World status map. 43:97
Embalming
Sacred and the dead. 41:4
Employment
Breaking in. SR3:60
Last month I couldn't spell "consultant" and now I are one. SR3:64
Employment — Book Reviews
Fear at Work 43:73
Rights of employees. 43:45
Termination trap. 43:45
Enabling computers.**
Dalton, Richard SR2:1
O'Brien, Mark et al. SR2:46
Encyclopedia of Natural Insect and Disease Control 43:64
Endangered night skies.**
Sullivan, Woodruff T. III 43:12
Energy Conservation — Book Review
Landscape planning for energy conservation. 41:74
Engineers and Engineering — Book Review
Getting sued and other tales of the engineering life. 42:96
Enter Freeware.** SR1:120
Entertainment in educational software.**
Carlston, Doug SR1:106
Entre Nous
Good movies: spring. 41:114
Epson Elf TV
Inside. SR3:65
Epson PX-8
Inside. SR3:65
Epstein, Lewis C.
Relativity visualized. 42:97
Epstein, Noel
Washington Post national weekly. 42:29
Esalen Institute — Book Review
Upstart spring. 41:122
Eskimos — Book Review
Inua. 41:108
Estrin, Kari
Black Sheep Review. 42:127
Europe — Book Review
Europe through the back door. 43:97
Evers, Larry
Between sacred mountains. 43:19
Everyman's Database Primer SR3:103
Evolution of Cooperation 43:71
EXACT DIMENSIONS! SR3:80
EXECUTIVE SUITE SR3:72
Experiments in Bioregionalism 43:61
Exquisite Corpse 42:126
Eyre, D.
Air-vapour barriers. 41:61

FLOG HORSE

FACEMAKER SR2:64
Facing the Danger 42:66
Factor, Donald*
Waiting for the sting. 41:36
Facts of Life 44:61
Family
Beyond hyphenization. 41:30
New space invaders — is computer-video technology pushing the family out of the home? SR1:103
Fanning, Tony and Robbie*
DBASE Phoenix. 44:83
Organizing. SR3:7
Trolls under the bridge. SR3:30
Fantasy Fiction — Book Review
Winter's tale. 42:11
Farina, John
Classics of western spirituality. 44:56
FDUMP 44:94
Fear at Work 43:73
Federal Debt — Book Review
War on waste. 43:73
Feldman, Saul D.*
Shame of word processors. SR3:42
Feminism — Book Review
Handbook of nonsexist writing 42:117
Words and women 42:117
Ferguson, Nicola
Right plant, right place. 42:108
Fiction
Metanoia: medicine. 42:14
Field Guide to Poisonous Plants and Mushrooms of North America 43:63
Field Guide to the Birds of North America 44:58
Field Guide to the Stars and Planets 43:16
Fifteen word processor commandments.**
Spezzano, Charles SR1:38
FILEVISION 44:83
Filing — Book Review
Personal documentation for professionals. 41:118
Filing — Software Reviews
OFFIX: simple, useful and cheap. SR1:1
Organizing. SR3:7
Something for everyone. SR1:47
What we use ourselves: R:BASE 4000. SR2:131
Filmmakers and Filmmaking — Book Review
Independent film and videomakers guide. 43:108
Films — Reviews
Good movies: spring. 41:114
Good movies: summer. 42:124
Good movies: fall. 43:118
Good movies. 44:73
Finances, Personal — Book Reviews
Only investment guide you'll ever need. 44:62
Simple living investments for old age. 44:62
Fire in the Valley 43:21, SR3:58
Fireplaces — Book Reviews
Finnish fireplace construction manual 1984. 43:88
Fish — Periodical Review
American Currents. 41:79
Fish — Book Review
Mountain in the clouds. 42:106
Fishing Industry and Trade
Voyage of the first ocean pickup. 41:62
Fitzhugh, William W.
Inua. 41:108
Fletcher, Colin
Complete walker III. 44:67
FLIGHT SIMULATOR SR1:107
Flower, Robert G.
Rodale product testing report: insulation materials. 43:90
Flowers — Book Review
Where have all the wildflowers gone? 41:78
FLYING COLORS SR2:78
Flynt, Larry
Rebel. 41:43
Folk Art Finder 43:128
Folk Music — Recording Review
Homespun Tapes. 41:116
Folk Music — Periodical Reviews
Black sheep review. 42:127
Dulcimer players news. 42:127
Food
Grace. 43:1
Food — Poem
Song of the taste. 43:1
Food Industry and Trade — Book Review
Freelance foodcrafting. 43:44
For programmers only.**
McCauley, Jim SR3:86
Forecasting the Telephone 44:38
Forester, John
Bicycle transportation. 41:110
Forests and Forestry — Periodical Review
Women in forestry. 42:105
Forster, E.M.*
Machine stops. 44:40
FORTH — Software Review
MACFORTH. SR3:109
Fortune Telling
Busting fortune tellers. 42:52
Fosburgh, Lacey
Old money. 41:29
Foster, Charles H.W.
Experiments in bioregionalism 43:61
4-POINT GRAPHICS SR2:82
Four reasons to try computer networking.**
Kleiner, Art SR1:80
Fox, Charles*
Liberating wheelchairs. 43:93
FRAMEWORK 44:87
DBASE Phoenix. 44:83
Will we love them in December as we did in May? 44:86
Freelance Foodcrafting 43:44
Freeware
Enter Freeware. SR1:120
Freiberger, Paul
Fire in the valley SR3:58, 43:21
French's Basic Catalogue of Plays 42:128
Freshwater Aquaculture Book 44:59
FRIDAY!
What they left out. SR3:37
Friendly Letter
Politics of religion. 42:67
Friends Journal
Politics of religion. 42:67
From the Ground Up 42:78
From the sketchbook of James Donnelly.**
Donnelly, James 41:1
Fruit Growing — Book Review
Kiwifruit culture. 43:65
Fruit Growing–Organization
North American Fruit Explorers (NAFEX). 43:64
Fuels—Book Reviews
Producer gas. 43:91
Fugett, Dick*
Access to World War II. 41:54
Fuller, R. Buckminster–Book Review
Fuller's earth. 42:97

Fundraising--Periodical Review
Grassroots Fundraising Journal. 41:29
Funerals
Burying Jed Kesey 42:4
In praise of funerals. 43:38
Furo Tubs 43:87
Future Water 43:11

GIANT BUNNY

Gaia
Becoming part of Gaia. 43:4
Galland, China
Women in the Wilderness Newsletter. 41:109
Galloway, Jeff
Galloway's book on running. 44:61
Galvin, Kathy
Media law. 43:113
Games and learning for children.**
Piestrup: Ann McCormick SR1:99
Garbo Talks
Good movies. 44:73
Garden Gourmet 43:65
Gardening — Book Reviews
Community garden book. 42:106
Complete shade gardener. 42:107
In your own back yard. 41:77
Right plant, right place. 42:108
Gardening–Organization
American Community Gardening Association. 41:76
Gardening — Periodical Reviews
Garden gourmet. 43:65
HortIdeas. 42:107
Journal of community gardening 41:76
Gavilan SR2:92
Gays — Book Review
One teenager in 10. 41:32
Genera of the Eastern Plants 41:78
Genera of the Western Plants 41:78
Genetics — Book Review
Cartoon guide to genetics. 43:20
Geography–Book Review
History from the air. 43:17
Gery, Michael E.C.*
Local news. 43:110
Getting Into America 44:66
Getting Sued and Other Tales of the Engineering Life 42:96
Gibson, William
Neuromancer. 44:39
Ginsberg, Allen*
Rejection letters to famous people. 42:118
Glass
Insulated glass. 41:74
Glenn, Peggy
Kerosene heaters. 42:84
Glossbrenner, Alfred
Complete handbook of personal computer communications. SR2:21
How to buy software. SR2:28
Goat Cheese 44:65
Going Places With the New Apple IIc SR3:101
Goldsworth, Maureen
Clothes for disabled people. 44:64
Gonick, Larry
Cartoon guide to genetics. 43:20
Good movies.**
Benson, Sheila 41:114, 42:124, 43:118, 44:73
Good Samaritan crimes.**
Delancey Street 42:59
Goodman, Danny
Going places with the new Apple IIc. SR3:101
Goodwyn, Lawrence
Democratic promise. 41:43
Gordon, J.E.
New science of strong materials. 43:87
Grace.**
Snyder, Gary 43:1
Grace, J. Peter
War on waste. 43:73
Grandma's boy.**
Jones, Ron 43:46
Granite Garden 43:62
Graphic Art — Software Reviews
Drawing with a desktop computer. SR2:76
Enabling computers. SR2:48
MACDRAW. SR3:108
Graphic Design — Book Review
Visual display of quantitative information. 43:111
Grassroots Fundraising Journal 41:29
Gratefulness, the Heart of Prayer 44:56
Gray, Lyn*
Best delay excuse yet, but maddening. 44:97
Great Britain
Grey-haired oil sheik of Downing Street. 42:48
Green Politics 43:72
Greenwood, Sadja
Menopause, naturally. 44:60
Grey Water — Book Review
Future water. 43:11
Grey-haired oil sheik of Downing Street.**
Szanto 42:48
Greystoke
Good movies: summer. 42:124
GRiD Compass SR2:92
Griffith, Susan
Work your way around the world. 41:109
Grossman, Richard L.
Fear at work. 43:73
Ground Water 43:11
Guenther Computer Products SR1:115
Guide to Physical Examination 41:13
Guns — Book Review
Under the gun. 41:42

HEAVENLY PIES

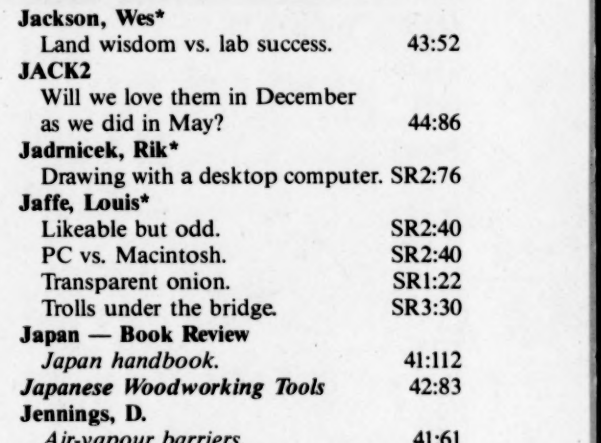
AS EVENING FELL, PIES DRIFTED FROM A STARRY SKY TO COVER THE NEWLY-TURNED EARTH OF MRS. HUBBARD'S GRAVE

HABADEX SR3:106
Hackers SR3:58, 43:21
Hampsten, Elizabeth
Plainswoman. 41:32
Handbook for Inventors 43:90
Handbook of Nonsexist Writing 42:117
Handbook of North American Indians (Vol. 10: Southwest) 43:18
Handicapped Persons
Liberating wheelchairs. 43:93
Handicapped Persons — Book Reviews
Cripple Liberation Front marching band blues. 42:13
Water sports for the disabled. 42:13
Handicapped Persons — Periodical Review
Communication Outlook. SR2:52
Handwell Computers
Inside. SR2:65
Hard Choices
Good movies: fall. 43:118
Hardy, D.E.
Tattootime. 42:126
Hargadon, Tom*
Trolls under the bridge. SR3:30
Harris Hydroelectric Systems
Micro hydro. 42:82
Hart, B.H. Liddell
History of the Second World War. 41:57
Hasidic Tales of the Holocaust 41:33
Hawken, Paul*
Surviving in small business. 41:14
Hawley, Gessner G.
Condensed chemical dictionary. 41:118
HAYES SMARTCOM II SR2:15
Health and Healing 43:37
Heart Disease — Book Review
Take care of your heart. 42:12
Heart Interface Inverters 44:70
Heating — Book Review
Kerosene heaters. 42:84
Helprin, Mark
Winter's tale. 42:11
Hemmerling, Joachim
Ponds and pools. 43:62
Herbicides
Note on recent developments in Agent Orange/herbicide battle. 41:75
Herman, Edward S.
Washington connection and Third World fascism. 41:53
HEROISM IN THE MODERN AGE SR3:70
Heron, Ann
One teenager in 10. 41:32
Hewlett-Packard Computers
HP 150: the magic touch. SR1:74
HEY DIDDLE DIDDLE SR1:99
Hickey, Mary Ann
Garden Gourmet. 43:65
Hiking — Book Review
Complete walker III. 44:67
Hill, Leslie
Solar hot water handbook. 43:88
History
Towards a theory of history. 41:94
History — Book Reviews
History from the air. 43:17
Timescale. 41:93
History of the Second World War 41:57
Holistic Health — Book Reviews
Alternative health guide. 42:23
Health and healing. 43:37
Women's health care. 42:23
Hollander, John
Rhyme's reason. 42:116
Holloway, James Y.
Katallagete. 42:109
Holmes, Ann M.
Take care of your heart. 42:12
Holocaust — Book Review
Hasidic tales of the holocaust. 41:33
Holod, Renata
Architecture and community. 42:84
Holthusen, T. Lance
Consumer's guide to earth sheltered housing. 44:70
Home Dairying 44:65
Home study goes legal.**
Dardick, Geeta 42:110
Homespun Tapes 41:116
Homesteading — Periodical Review
Earth Garden. 41:77
Hotels — Book Review
Complete guide to beds & breakfasts, inns & guesthouses. 44:67
House Building — Book Reviews
Before you build. 41:60
Building the Alaska log home. 43:86
Building your own house. 43:86
Racing alone. 41:61

Housebound.**
Howe, Joan 44:21
Housekeeping — Book Review
Clean your house and everything in it. 42:27
Housing
Dwelling. 41:22
How computers made this article.**
Brand, Stewart SR1:34
How to Be Your Own Butcher 41:21
How to Buy Software SR2:28
How to Get the Most Out of CompuServe SR3:103
How to grade your school.**
Jones, Ron 41:120
Howe, Joan*
Housebound. 44:21
HP 150 SR1:74
HP Thinkjet Printer SR2:103
Huis and means in Taiwan.**
Stites, Richard 42:18
Huisingh, Donald
Making pollution prevention pay. 41:69
Human Body 44:61
Human-Powered Vehicles — Periodical Review
Human Power. 42:82
Hunter, Larry*
Public image. 44:32
Hydroelectric Energy — Equipment and Supplies
Micro hydro. 42:82

IBM
Big is beautiful? SR1:52
Inside. SR2:65
IBM-Compatible Computers
Lookalike/actalike/workalike club. SR1:63
IBM LOGO SR3:88
IBM PC
Bringing the IBM PC up to snuff. SR1:56
Inside. SR3:65
Keyboards for the PC. SR1:60
Playing hardball. SR1:54
Why the IBM PC is a lousy standard for the industry. SR1:50
Writing tools. SR1:8
IBM PC — Book Reviews
IBM PC and 1-2-3. SR3:103
Your IBM PC made easy. SR3:101
IBM PC and 1-2-3 SR3:103
IBM PCjr
IBM PCjr: the answer to why anyone needs a home computer. SR2:37
Inside. SR1:65
Likeable but odd. SR2:40
PC vs. Macintosh. SR2:40
IBM PCjr: the answer to why anyone needs a home computer.**
Milburn, Ken SR2:37
Icenogle, Darrell*
Transparent onion. SR1:22
Igou, Woody*
Snores of perception. 43:114
Illich, Ivan*
Dwelling. 41:22
Immigration and Emigration — Book Review
Getting into America. 44:66
In Banks We Trust 42:65
In praise of funerals.**
Bacon, Joe 43:38
In Your Own Back Yard 41:77
Independent Film and Videomakers Guide 43:108
Index: 1983 41:139
Indian Country 43:19
Indigenous People's News Emergency Bulletin
Indigenous People's Network 42:39
Indigenous theater.**
Lee, Maryat 43:100
Information as a communicable disease.**
Kelly, Kevin 42:98
Information quarantine in England.**
Kinney, Jay 42:104
Information Systems — Book Review
Personal documentation for professionals. 41:118
Ingham, Harry and Larry*
Difference between writing and building racing engines. 42:80
Inglis, Brian
Alternative health guide. 42:23
Inmac SR1:116
IN-SEARCH SR3:38
Inside.**
Dalton, Richard SR2:65
Insider's Guide to Health Foods 42:12
Insulation — Book Review
Rodale product testing report: insulation materials. 43:90
Insulation — Equipment and Supplies
Insulated glass. 41:74
Integrated Software — Software Reviews
FRAMEWORK. 44:87
SYMPHONY. 44:87
Intelligence Agencies — Book Review
Intelligence warfare. 43:72
Interactive Videodiscs
One picture is worth 106 words. SR2:96
International Electronic Mail Service (IEMS) SR2:23
International Relations — Book Review
Parable of the tribes. 43:71
International Shortwave Listener's Program Guide 43:113
Introduction to Wordstar SR3:103
INTUIT
Will we love them in December as we did in May? 44:86
Inua 41:108
Inventors and Inventions — Book Review
Handbook for inventors. 43:90
Iran — Politics and Government
Not a job for the cavalry. 43:66
Is anything sacred?**
Cane, William E. 42:68
Is it stealing?**
Dalton, Richard SR2:122
Islam
Mu'ammar al-Qadhafi: faces of the enemy. 41:44

Jackson, Charles*
Enabling computers. SR2:46
Jackson, Wes*
Land wisdom vs. lab success. 43:52
JACK2
Will we love them in December as we did in May? 44:86
Jadrnicek, Rik*
Drawing with a desktop computer. SR2:76
Jaffe, Louis*
Likeable but odd. SR2:40
PC vs. Macintosh. SR2:40
Transparent onion. SR1:22
Trolls under the bridge. SR3:30
Japan — Book Review
Japan handbook. 41:112
Japanese Woodworking Tools 42:83
Jennings, D.
Air-vapour barriers. 41:61
Jessica's Biscuit Cookbook Catalog. 43:44
Jews — Book Review
Hasidic tales of the holocaust. 41:33
Job Hunting — Book Review
Damn good resume guide. 42:27
Jobs — Organizations
Register for International Service in Education. 41:123
Johnson, Daniel A.
Just in case. 44:66
Johnson, George
Architects of fear. 42:38
Johnson, James*
Sales Edge: selling in the twilight zone. SR2:108
Jones, Ron*
Grandma's boy. 43:46
How to grade your school. 41:120
Journal of Community Gardening 41:76
Journalism
Local news. 43:110
Journalism — Book Review
Media law. 43:113
Just in Case 44:66
Just me and my machine: the new solipsism.**
Winner, Langdon 44:29



Kabisch, Klaus
Ponds and pools. 43:62
Kamikaze 41:54
Kaplan, Susan A.
Inua. 41:108
Katallagete 42:109
Katimavik 42:109
Kazis, Richard
Fear at work. 43:73
Keeping the Cutting Edge 43:87
Kelley, James E. Jr.
IBM PC and 1-2-3. SR3:103
Kellogg, Orson
Radio Shack notebook computer. SR3:100
Kelly, Kevin*
Information as a communicable disease. 42:98
Trolls under the bridge. SR3:30
KEN USTON'S PROFESSIONAL BLACKJACK SR2:60

Kennedy, Donald
Cold and the dark. 43:21
Kennedy, William V.
Intelligence warfare. 43:72
KERON Productions Inc.
Problem-solving simulations. SR2:69
Kerosene Heaters 42:84
Kesey, Ken*
Burying Jed Kesey. 42:4
Key Tronic KB5150
Keyboards for the PC. SR1:60
Keyboards for the PC.**
McClure, Matthew SR1:60
Khalili, Nader
Racing alone. 41:61
Kidron, Michael
War atlas. 41:58
KIDS ON KEYS 44:95
KIDWRITER 44:96
Kinigstein, Noah A.
Rights of employees. 43:45
Kinney, Jay*
Defending the Miskitos. 43:70
Information quarantine in England. 42:104
Politics of religion. 42:67
Kirby, James
Solar hot water handbook. 43:88
Kirkendall, Tom
Bicycling the Pacific coast. 43:98
Kiwifruit Culture 43:65
Klein, Kim
Grassroots fundraising journal. 41:29
Kleiner, Art*
Ambivalent miseries of personal computing. 44:6
Best user's guides. SR3:99
Beyond the busy signal: new kinds of voice services. SR1:85
Break. SR2:20
CompuServe's boon for free-software lovers. 44:93
Computer conferencing systems. SR2:24
Electronic mail programs. SR2:22
Four reasons to try computer networking. SR1:80
Next phone company. SR1:77
Next telephone bill. SR1:78
Personal effects of networking. SR2:22
Rash of McGames. 44:79
Softalk, we hardly knew ye. 44:75
Spawning of Lumena. 44:90
Telecommunicating. SR2:6
Telecommunicating update. SR3:41
Telecommunicating with the Radio Shack 100. SR2:90
Telecommunications coverage at the *Review.* SR1:86
Transparent onion. SR1:22
Trolls under the bridge. SR3:30
Upward mobility. 44:89
Using EIES. SR1:31
Welcoming the new domain editor. 44:85
Kneitel, Tom
Popular Communications. 42:115
KOALAPAD SR2:78
Enabling computers. SR2:48
Kornher, Steve
Complete handbook of solar air heating systems. 41:73
Krapfel, Paul*
Becoming part of Gaia. 43:4
Krausz, John
Bicycling book. 41:110
Krausz, Vera van der Reis
Bicycling book. 41:110
Kreinberg, Lew
Street signs Chicago. 41:28
KRELL'S LOGO SR3:88
Kuwahara, Jasuo
Kamikaze. 41:54

LEON & LEON'S DOG

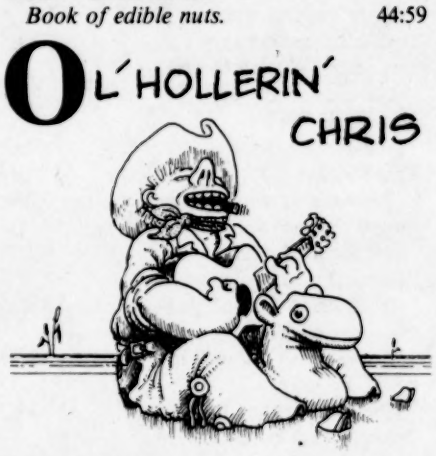
Ladbury, Ann
Dressmaker's dictionary. 41:118
Laffal, Florence
Folk Art Finder. 43:128
Lamb, Renate
South-east Asia handbook. 41:112
Land Use — Book Review
Man on earth. 41:93
Land wisdom vs. lab success.**
Jackson, Wes 43:52
Landscaping — Book Review
Landscape planning for energy conservation. 41:74
Language — Book Reviews
Handbook of nonsexist writing 42:117
Language acquisition made practical. 41:122
Languages and women 42:117
Languages for thinking about thinking.**
McCauley, Jim SR3:82
Lanier, Pamela
Complete guide to bed & breakfasts, inns & guesthouses. 44:67
L'Argent
Good movies: summer. 42:124
LaRoche, Nancy
Synonym finder. 44:72
Last month I couldn't spell 'consultant' and now I are one.**
Dalton, Richard SR3:64
Latin America — Periodical Reviews
NACLA report on the Americas. 42:39
No Middle Ground. 41:59
Lauer, Harvey*
Enabling computers. SR2:46
Lauersen, Neils H.
Premenstrual syndrome. 42:22
Law — Book Review
Media law. 43:113
LAZY WRITER/LAZYFONT
RAM. SR1:87
Learning
Problem-solving simulations. SR2:69
Putting intelligence into educational programs. SR2:62
Learning — Software Reviews
Enabling computers. SR2:48
KIDS ON KEYS. 44:95
KIDWRITER. 44:96
Learning/playing. SR2:58
STORY MAKER. 44:96
Learning/playing.**
Robertson, Barbara SR1:98
Scarola, Robert SR2:58
Lee, Alfred*
Trolls under the bridge. SR3:30
Lee, Maryat*
Indigenous theater. 43:100
Lernoux, Penny
In banks we trust. 42:65
Lessing, Doris
Marriages between zones three, four and five. 42:11
Letter Exchange 42:116
Levine, Stephen
Meetings at the edge. 43:129
Levy, Charles K.
Field guide to poisonous plants and mushrooms of North America. 43:63
Levy, Steven*
Hackers. SR3:58
Rash of McGames. 44:79
Software that ought to be: BLUE PENCIL. SR3:1
Transparent onion. SR1:22
Liberating wheelchairs.**
Fox, Charles 43:93
Libya — Politics and Government
Mu'ammar al-Qadhafi: faces of "the enemy." 41:44
Life as a stream of consciousness: Alzheimer's disease.**
Tisdale, Sallie 43:22
Likeable but odd.**
Jaffe, Louis SR2:40
Liquid Crystal Displays (LCDs)
Inside. SR2:65
Liswood, Woody*
Cheapest may be best. 44:82
Transparent onion. SR1:22
Trolls under the bridge. SR3:30
Literature — Periodical Review
Exquisite Corpse. 42:126
Living the Sky 43:18
Livingston, Dennis
Social stratification in the U.S. 42:66
Livos Organic Wood Finishes 44:70
Loans — Organizations
Huis and means in Taiwan. 41:18
Lobel, Evan, Leon, and Stanley
How to be your own butcher. 41:21
Local news.**
Gery, Michael E.C. 43:110
Log Homes — Book Review
Building the Alaska log home. 43:86
LOGO
Baby LOGOs. SR3:90
Enabling computers. SR2:48
For programmers only. SR3:86
Languages for thinking about thinking. SR3:82
LOGO for kids: start with sprites. SR3:85
Program credits. SR3:98
Trouble with LOGO. SR3:89
Using LOGO, making science. SR3:92
LOGO for kids: start with sprites.**
Albrecht, Bob SR3:85
Londer, Randi
Coevolution of climate and life. 42:95
Long Beach Community Hospital
Alzheimer's family care guide. 43:33
Lookalike/actalike/workalike club.**
Dalton, Richard SR1:63
Loose, Stefan
South-east Asia handbook. 41:112
LOTUS 1-2-3
Inside. SR1:65
LOTUS 1-2-3 — Book Review
IBM PC and 1-2-3. SR3:103
Lu, Cary
Apple Macintosh book. SR3:100
LUMENA SR2:78
Spawning of LUMENA. 44:90

MAXIMILIAN

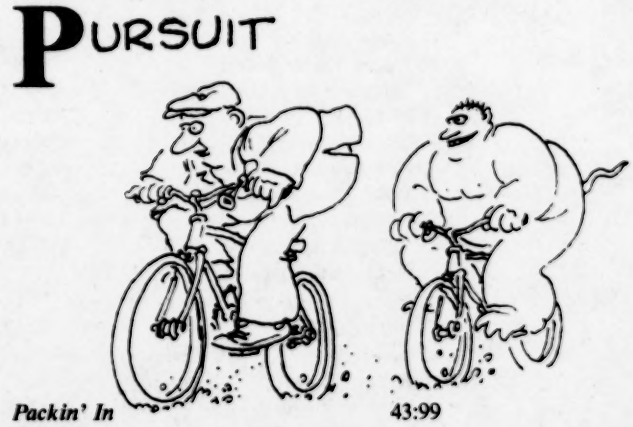
MAC PASCAL SR3:110
MacCracken, Calvin D.
Handbook for inventors. 43:90
MACDRAW SR3:108
MACFORTH SR3:109
Machine stops.**
Forster, E.M. 44:40
Machines
Push stick. 43:92

MacNeil, Madeline
Dulcimer Players News. 42:127
MACTEP SR3:112,
Macworld SR3:111
Magazines
Softalk, we hardly knew ye. 44:75
What's worth reading. SR2:113
MAGIC CASH REGISTER SR2:62
MAGIC SPELLS SR1:109
Mail-Order Businesses
Caverly's guide to direct mail advertisers. SR1:112
Conroy La Point. SR1:114
Guenther Computer Products. SR1:115
Inmac. SR1:116
Mail-order buying primer. SR1:112
Total Access. SR1:117
Wilson's Computer Business. SR1:113
Mail-order buying primer.**
Stockford, James SR1:112
Major, Jill C.
Clean your house and everything in it. 42:27
Make Prayers to the Raven 42:87
Making Money Making Music 44:63
Making Pollution Prevention Pay 41:69
Man Called Intrepid 41:55
Man on Earth 41:93
MANAGING YOUR MONEY 44:85
Mander, Jerry*
Six grave doubts about computers. 44:10
Mann, Al*
Enabling computers. SR2:46
Maps
Pocket Survival. 43:96
World status map. 43:97
Traveler's maps. 42:76
Marine Life — Book Review
Audubon Society field guide to North American seashore creatures. 41:79
Markert, Lawrence
Exquisite corpse. 42:126
Marriages Between Zones Three, Four, and Five 42:11
Marson, Chuck
In your own back yard. 41:77
Maryknoll
Politics of religion. 42:67
Masayesva, Victor Jr.
Hopi photographers/ Hopi images 42:86
Massage portraits.**
Campbell, Anneke 43:120
Massion, Charlea*
Autopsy of a murdered man. 43:34
MASTER BUILDER SR3:75
Matthiessen, Peter
Indian country. 43:19
MAXTHINK 44:84
McCauley, Jim*
For programmers only. SR3:86
Languages for thinking about thinking. SR3:82
McClennon, Charles
Landscape planning for energy conservation. 41:74
McClure, Matthew*
Does this foreshadow MacUnix? 44:94
Keyboards for the PC. SR1:60
Mr. Download: an interview with William von Meister. SR1:88
Of mice and cheese. SR1:44
Replaced by a computer? An interview with Nils NIlsson. SR2:116
Typing in your notebook. SR2:95
McDonald, Sandy A.F.
From the ground up. 42:78
McGourty, Fred
Right plant, right place. 42:108
McGrath, Ed
Superinsulated house. 42:85
MCI MAIL SR2:22
McLarney, William
Freshwater aquaculture book. 44:59
McWilliams, Peter*
Peter McWilliams minority report. SR2:36
Transparent onion. SR1:22
Mead, Margaret
With a daughter's eye. 43:20
Meat Industry and Trade — Book Review
Modern meat. 43:44
Media Law 43:113
Medical Profession — Book Review
Health and healing. 43:37
Medical Profession — Fiction
Metanoia: medicine. 42:14
Medical Profession — Poem
Pain. 43:34
Meehan, Richard L.
Getting sued and other tales of the engineering life. 42:96
Meetings at the Edge 43:129
Meetings with remarkable cat ladies.**
Callum, Diane 42:24
Meinel, Aden and Marjorie
Sunsets, twilights, and evening skies. 44:57
Meinkoth, Norman A.
Audubon Society field guide to North American seashore creatures. 41:79
Menopause — Book Review
Menopause, naturally. 44:60
Menstruation — Book Reviews
Once a month 42:22
Premenstrual syndrome. 42:22
Menstruation — Periodical Review
The PMS connection 42:22
Mental Health and Illness
Life as a stream of consciousness: Alzheimer's disease. 43:22
Menzel, Donald H.
Field guide to the stars and planets. 43:16
Metal lunch.**
Mitchell, Don P. 44:4
Metanoia: medicine.**
Rusenas, Irena 42:14
METATRAK II SR3:119
Metz, Don
Compact house book. 41:60
Mice (Computer Accessories)
Of mice and cheese. SR1:44
Microelectronics — Book Review
State of the art. 42:115
Microfiche — Equipment and Supplies
Pocket Survival. 43:96
MICROSOFT MULTIPLAN SR3:107
MICROSOFT WORD
Three availability problems. 44:81
Writing tools. SR1:8
Microwriter
And now for something completely different. SR1:42
Middle East — Politics and Government
Not a job for the cavalry. 43:66
Milam, Lorenzo Wilson
Cripple Liberation Front marching band blues. 42:13
Milburn, Ken*
Columbia MPC. SR1:71
Corona Data Systems PC. SR1:70
IBM PCjr: the answer to why anyone needs a home computer. SR2:37
Upward mobility. 44:89
Miller, Casey
Words and women 42:117
Miller, Henry
Paintings of Henry Miller. 42:123
Miller, Jonathan
Facts of life. 44:61
Human body. 44:61
Miller, Lawrence J.
International shortwave listener's program guide. 43:113
MILLIKEN WORD PROCESSOR 44:96
Mindset SR3:121
MINIVC SR3:114
Mitcham, Mark*
Disconnected. 42:139
Mitchell, Don P.*
Metal lunch. 44:4
Mitchell, Edna*
New space invaders — is computer-video technology pushing the family out of the home? SR1:103
MITE SR2:12
Telecommunicating update. SR3:41
Modems
Modems. SR2:19
Multi-Modem MT212AH SR3:41
VICMODEM. SR3:115
MODEM7 SR2:13
Most popular public domain program. SR1:122
Modern Meat 43:44
Mohlenbrook, Robert H.
Where have all the wildflowers gone? 41:78
Mohr, Marilyn
Canoecraft. 44:69
Money — Book Review
Old money. 41:29
Monkey trap or the mystical engine?**
Walsh, Birrell 44:1
Mont-Laurier Benedictine Nuns
Cheesemaking. 44:65
Moore, Andy C.
Teleconnect. 41:113
Moores, Ted
Canoecraft. 44:69
Most popular public domain program.** SR1:122
Mountain Bike Book 44:68
Mountain in the Clouds 42:106
MOVIEMAKER SR3:113
Mr. Download: an interview with William von Meister.**
McClure, Matthew SR1:88
MS. PAC-MAN SR1:104
MS-DOS User's Guide SR3:102
MSX SR3:65
Mu'ammar al-Qadhafi: faces of "the enemy."**
Piper, Jessye 41:44
Muir, Richard
History from the air. 43:17
Muirden, James
Astronomy with binoculars. 43:16
M.U.L.E. SR1:105
Multi-Modem MT212AH
Telecommunicating update. SR3:41
Murtha, Stephen
PC DOS companion. SR3:101
Music — Book Review
Composing music. 43:109
Music — Software Reviews
Commodore BONUS PACK. SR3:118
DRUM-KEY. SR3:118
METATRAK II. SR3:119
MUSIC MACHINE. SR3:118
MUSICALC I. SR3:116
Music Industry — Book Review
Making money making music. 44:63
MUSIC MACHINE SR3:118
Music Synthesizers
Your own music studio — $3900. SR3:119
Music Instruments — Book Review
Recorder book. 42:128
MUSICALC I SR3:116
Mushrooms — Book Review
Field guide to poisonous plants and mushrooms of North America. 43:63
Mushrooms — Periodical Review
Mushroom: the Journal of Wild Mushrooming. 43:63
My daily affairs with a Compaq.**
Smith, Dave SR1:64
Mythinformation.**
Winner, Langdon 44:22
Mythology — Book Review
Way of the animal powers. 41:108

Naiman, Arthur*
Introduction to WordStar. SR3:103
Transparent onion. SR1:22
Names
Beyond hyphenization. 41:30
NACLA Report on the Americas 42:39
Nading, Lee*
Trail of rising and falling birds. 42:1
National Geographic Society
Field guide to the birds of North America. 44:58
National Research Council
Producer gas. 43:91
Native Americans — Book Reviews
Between sacred mountains. 43:19
Handbook of North American Indians (Vol. 10: Southwest). 43:18
Hopi photographers/Hopi images 42:86
Hopi voices 42:86
Indian country. 43:19
Living the sky. 43:18
Make prayers to the raven. 42:87
Native Americans — Nicaragua
Defending the Miskitos. 43:74
Nicaragua's other war. 42:40
Native Peoples — Periodical Review
Indigenous People's Network Bulletin 42:39
Natural Foods — Book Reviews
Insider's guide to health foods. 42:12
NEC APC III
Inside. R3:65
NEC PC-8201 SR2:89
Neilson, Waldo
Right-of-way. 44:67
Nelson, Richard K.
Make prayers to the raven. 42:87
Networking and Networks
Four reasons to try computer networking. SR1:80
Personal effects of networking. SR2:22
Neuromancer 44:39
Neverending Story
Good movies: fall. 43:118
New Alchemy Institute — Book Review
Bioshelters, ocean arks, city farming. 43:91
New England Cheesemaking Supply Co.
Cheesemaking. 44:65
New home computers.**
Dalton, Richard SR2:30
New Science of Strong Materials 43:87
New space invaders — is computer-video technology pushing the family out of the home?**
Mitchell, Edna SR1:103
Newsletters — Book Review
Editing your newsletter. 43:112
Newspapers
Local news. 3:110
Newspapers — Periodical Review
Washington Post national weekly. 42:29
Newton, Harry
Teleconnect. 41:113
NEWWORD
Writing tools. SR1:8
Next phone company.**
Kleiner, Art SR1:77
Next telephone bill.**
Kleiner, Art SR1:78
Nietschmann, Bernard*
Defending the Miskitos. 43:74
Nicaragua's other war. 42:40
Nilsson, Nils
Replaced by a computer? An interview with Nils Nilsson. SR2:116
No Middle Ground 41:59
North American Congress on Latin America (NACLA)
NACLA report on the Americas. 42:39
North American Fruit Explorers (NAFEX) 43:64
Not a job for the cavalry.**
Szanto 43:66
Not a toy but the real thing.**
Barney, Clifford SR2:33
NOTEBOOK SR3:27
Nuclear Warfare — Book Review
Cold and the dark. 43:21
Nuclear winter.**
Ehrlich, Paul R. 42:87
Nudism — Book Review
As nature intended. 43:43
Nuts — Book Review
Book of edible nuts. 44:59



O'Brien, Mark*
Enabling computers. SR2:46
Oceans — Book Review
Times atlas of the oceans. 41:92
Odate, Toshio
Japanese woodworking tools. 42:83
Of mice and cheese.**
McClure, Matthew SR1:44
OFFIX
OFFIX: simple, useful and cheap. SR1:1
Oil Industry and Trade — Great Britain
Grey-haired oil sheik of Downing Street. 42:48
Old Money 41:29
Old People — Book Review
Silver threads among the gold. 41:31
Olson, David M.
Theaterwork 43:108
Omni Complete Catalog of Computer Software 44:75
OMNIWRITER
Three availability problems. 44:81
On Foot Through Europe 42:76
Once a Month
Premenstrual syndrome. 42:22
Once Upon A Time in America
Good movies: fall. 43:118
One picture is worth 106 words.**
Dillon, Mark K. SR2:96
One Teenager in 10 41:32
On-Line Database Searching — Software Reviews
APPLE ACCESS II. SR3:40
IN-SEARCH. SR3:38
PFS:ACCESS. SR3:38
Only Investment Guide You'll Ever Need 44:62
Opal 43:128
OPEN ACCESS
Will we love them in December as we did in May? 44:86
Operating Systems
Inside. SR3:65
Will the real PC DOS please stand up? SR1:52
Operating Systems — Book Reviews
CP/M bible. SR3:101
MS-DOS user's guide. SR3:102
PC DOS companion. SR3:101
Organizing.**
Fanning, Tony and Robbie SR3:7
Organizing programs as mind extension tools.**
Pendley, Wayne SR3:28
Ortiz, Alfonso
Handbook of North American Indians (Vol. 10: Southwest). 43:18
Ortiz, Roxanne Dunbar*
Defending the Miskitos. 43:74
Other Bible 43:129
Outdoor Life — Equipment and Supplies
Pocket survival 43:96
Prisma field notebooks. 42:77
Pyromid. 42:77
Techniques and equipment for wilderness horse travel 43:99
Outten, Wayne N.
Rights of employees. 43:45
OVATION
Will we love them in December as we did in May? 44:86
Overnight Guide to Public Speaking 41:117
Oxford-Duden Pictorial English Dictionary 43:109



Packin' In 43:99
Pain.**
Clary, Patrick 43:34
Pappas, Charles*
Bad seeds. 42:60
Parable of the Tribes 43:71
Parents and Children
Burying Jed Kesey. 42:4
Paris, Texas
Good movies. 44:73
Parish, Darrell
Car buyer's art. 43:98
Parker, Yana
Damn good resume guide. 42:27
Parks, Kathy*
What we use ourselves: inexpensive software insurance. SR3:132
Participate-on-the-Source (PARTI)
Computer conferencing systems. SR2:24
Partisans and Guerrillas 41:56
Partnering 42:28
Pasachoff, Jay M.
Field guide to the stars and planets. 43:16
PASCAL — Software Review
MAC PASCAL. SR3:110
Payson, Harold H.
Keeping the cutting edge. 43:87
PC DOS
Will the real PC DOS please stand up? SR1:52
PC DOS Companion SR3:101
PC vs. Macintosh.**
Jaffe, Louis SR2:40

PC-FILE III SR3:13
PC LOGO SR3:88
PC-TALK.III SR2:17
Telecommunicating update. SR3:41
PC-WRITE SR3:48
PCWRITER SR3:48
Pelham, David
Facts of life. 44:61
Human body. 44:61
Pendley, Wayne*
Organizing programs as mind extension tools. SR3:28
Penguin Adoption Handbook 43:43
Perry, Jane and John Greverns
Random House guide to natural areas of the eastern United States. 42:78
PERSONAL CARD FILE SR3:15
PERSONAL COMMUNICATIONS MANAGER SR2:16
Personal Documentation for Professionals 41:118
Personal effects of networking.**
Kleiner, Art SR2:22
PERSON-TO-PERSON SR3:40
Pest Control — Book Review
Encyclopedia of natural insect and disease control. 43:64
Peter McWilliams minority report.**
McWilliams, Peter SR2:36
Petrie, Guy
PC DOS companion. SR3:101
Peyton, David
How to get the most out of CompuServe. SR3:101
PFS:ACCESS SR3:38
CompuServe's boon for free-software lovers. 44:93
Telecommunicating update. SR3:41
PFS:FILE SR3:10
DBase Phoenix. 44:83
PFS:REPORT SR3:11
DBase Phoenix. 44:83
PFS:SOLUTIONS SR3:12
DBase Phoenix. 44:83
Phillips, Michael
Simple living investments for old age. 44:62
Photography — Book Reviews
Beyond vision. 44:57
History from the air. 43:17
Physics — Book Review
Relativity visualized. 42:97
PICTURE-IT 44:91
PICTUREWRITER
Enabling computers. SR2:48
Piestrup, Ann McCormick*
Games and learning for children. SR1:99
PINBALL CONSTRUCTION SET SR1:102
Piper, Jessye*
Mu'ammar al-Qadhafi: faces of "the enemy." 41:44
Piper, Thomas
Trolls under the bridge. SR3:30
Piracy and backup in the Fortune 1000.**
Reilly, Pat SR2:126
PITS AND STONES SR3:70
Places in the Heart
Good movies. 44:73
Plainswoman 41:32
PLANETFALL SR1:111
Playing hardball.**
Spezzano, Charles SR1:54
Plays — Catalog Review
French's basic catalogue of plays. 42:128
Plymouth Voyager Vanlets. 41:70
PMS Connection
Premenstrual syndrome. 42:22
Pocket Survival 43:96
Poems
Autopsy of a murdered man. 43:34
Pain. 43:34
Raising my hand. 42:114
Song of the taste. 43:1
Poetry — Book Reviews
Opal. 43:128
Rhyme's reason. 42:117
POGO JOE 44:80
Political Parties — Book Review
Green politics. 43:72
Political Prisoners — Book Review
Torture in the eighties. *42:38*
Politics — Book Reviews
Architects of fear. 42:38
Washingtoon. 41:42
Politics — Periodical Review
Rebel. 41:43
Politics of religion.**
Kinney, Jay 42:67
Pollution — Book Review
Making pollution prevention pay. 41:69
Ponds — Book Review
Ponds and pools. 43:62
Poole, Lon
Apple II user's guide. SR3:100
Your Atari computer. SR3:100
Popular Communications 42:115
Populism — Book Review
Democratic promise. 41:43
Posters — Review
Social stratification in the U.S. 42:66
POST-PLUS SR2:14
Telecommunicating update. SR3:41
Powell, Lenore S.
Alzheimer's disease. 43:33
Powers, Jack*
Trolls under the bridge. SR3:30
Practical Guide for the Amateur Naturalist 42:96
PRACTICALC III
Cheapest may be best. 44:82
Premenstrual syndrome.**
Masullo, Ginny 42:22
Premenstrual Syndrome and You
Premenstrual syndrome. 42:22
Primack, Richard B.
Field guide to poisonous plants and mushrooms of North America. 43:63
Printer pro's picks.**
Stevenson, Charles SR2:100
Prisma Field Notebooks 42:77
Problem-solving simulations.**
Rollet, Ron SR2:69
Producer Gas 43:91
Program credits.**
Scarola, Robert SR3:98
PROKEY SR3:50
Pryor, Karen
Don't shoot the dog! 41:124
Psychiatric Drugs 41:13
Psychics
Busting fortune tellers. 42:52
Psychotherapy — Book Review
Meetings at the edge. 43:129
Public domain software.**
Bove, Tony and Rhodes, Cheryl SR1:118
Public image.**
Hunter, Larry 44:32
Publishers and Publishing
Rejection letters to famous people. 42:118
RAM. SR1:87
Publishers and Publishing — Book Review
Small Press. 43:112
Pulstar 41:74
PUNCTUATION AND STYLE
Writing tools. SR1:8
Purple Rain
Good movies: fall. 43:118
Purser, Robert*
Transparent onion. SR1:22
Push stick.**
Baer, Steve 43:92
Putting intelligence into educational programs.**
Barstow, Daniel SR2:62
Pyromid 42:77

QUELLING A RHINO

Qadhafi, Mu'ammar al-
Mu'ammar al-Qadhafi: faces of "the enemy." 41:44
QIX SR3:69
QUICK BROWN FOX
Writing tools. SR1:8
QUICKCODE SR3:20
QUICK-DRAFT 44:92
Quickie
Liberating wheelchairs. 43:93
Quotrek
Inside. SR2:65

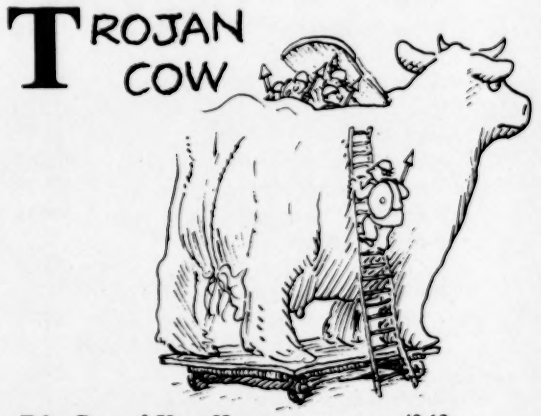
RELIGION

Racing Alone 41:61
Radio Shack Color Computer SR3:115
Radio Shack TRS-80
Enabling computers. SR2:48
Radio Shack TRS-80 Model 100 SR2:90
Complete Model 100. 44:76
Writing tools. SR1:8
Radio Shack TRS-80 Model 100 — Book Review
Radio Shack notebook computer. SR3:100
Radios
Sony ICF-2002 AM-FM shortwave radio. 41:113
Railroads — Book Review
Right-of-way. 44:67
Raised Dot Computing Newsletter
Enabling computers. SR2:48
Raising my hand.**
Antler 42:114
RAM SR1:87, SR2:75, SR3:81
Random House Guide to Natural Areas of the Eastern United States 42:78
Rash of McGames.**
Levy, Steven 44:79
Rastorfer, Darl
Architecture and community. 42:84
R:BASE EXTENDED REPORT WRITER (XRW) SR3:21
R:BASE 4000 SR2:131, SR3:21
DBase Phoenix. 44:83
Reading
Computer games make reading fun. SR1:109
RAM. SR1:87
Real Goods Trading Co.
Alternative energy sourcebook. 41:74
Rebel 41:43
Recorder Book 42:128
Redman, Sam
User-friendly guide to lap portables. SR3:100
Reference Books — Book Review
Synonym finder. 44:72
Register for International Service in Education 41:123

Reilly, Pat*
Piracy and backup in the Fortune 1000. SR2:126
Rejection letters to famous people.**
Ginsberg, Allen 42:118
Relativity Visualized 42:97
Religion
Coffee hour. 41:34
Is anything sacred? 42:68
Politics of religion. 42:67
Renewable Energy News
Old friends growing up department. 42:79
Replaced by a computer? An interview with Nils Nilsson.**
McClure, Matthew SR2:116
Repo Man
Good movies: summer. 42:124
Retondo, Pete*
Uncommon bench. 43:78
REVELATION
What they left out. SR3:37
Rhodes, Cheryl*
Public domain software. SR1:118
Transparent onion. SR1:22
User's Guide. SR3:102
Rhyme's Reason 42:116
Richardson, Nancy
Directory of sail training ships and programs. 41:123
Right-of-Way 44:67
Right Plant, Right Place 42:108
Rights of Employees 43:45
Rise of the Computer State 44:38
Roberts, Kenneth G.
Canoe. 44:69
Roberts, Walter Orr*
Cold and the dark. 43:21
US/USSR bi-national research park in the Bering Strait. 43:70
Robertson, Barbara*
HP 150: the magic touch. SR1:74
HP Thinkjet Printer. SR2:103
Learning/playing. SR1:98
Robinette, Gary O.
Landscape planning for energy conservation. 41:74
Robots — Humor
Metal lunch. 44:4
ROCKY'S BOOTS SR1:100
Rodale, J.I.
Synonym finder. 44:72
Rodale Product Testing Report: Insulation Materials 43:90
Rogers, Maggie
Mushroom: the Journal of Wild Mushrooming. 43:63
Rollet, Ron*
Problem-solving simulations. SR2:69
Rollwagon, Mary
Consumer's guide to earth sheltered housing. 44:70
Rose, Stephen
Social stratification in the U.S. 42:66
Rosenbaum, Ernest H.
Can you prevent cancer? 44:60
Rosenblatt, Roger
Children of war. 41:58
Rosengarten, Frederic Jr.
Book of edible nuts. 44:59
Rosenthal, Lois
Partnering. 42:28
Roskind, Robert
Before you build. 41:60
Building your house. 43:86
Rossi, Peter H.
Under the gun. 41:42
Rufener, Sharon*
DBASE Phoenix. 44:83
Will we love them in December as we did in May? 44:86
RUN FOR THE MONEY 44:80
Running — Book Review
Galloway's book on running. 44:61
RUNNING PROGRAM
Best delay excuse yet, but maddening. 44:97
Rusenas, Irena*
Metanoia: medicine. 42:14
Russell, Susan Jo*
Enabling computers. SR2:46
Russo, William
Composing music. 43:109

Sachs, Jonathan
Your IBM PC made easy. SR3:101
Sachs Hub Brakes 42:82
Sacred and the dead.**
Tisdale, Sallie 41:4
Sagan, Carl
Cold and the dark. 43:21
Sailing — Book Review
Directory of sail training ships and programs. 41:123
Sailing — Periodical Review
Sail assistance news. 43:99
Sale, P.R.
Kiwifruit culture. 43:65
Salt
Politics of religion. 42:67
SALES EDGE SR2:108
Sales Edge: selling in the twilight zone.**
Dalton, Richard et al. SR2:108
SARGON III SR2:60
Scarola, Robert*
Baby LOGOs. SR3:90
Learning/playing. SR2:58
Program credits. SR3:98
Teach 'em work skills while they're young. 44:95
Trouble with LOGO. SR3:89
Using LOGO, making science. SR3:92
Schell, Orville*
Crime and capitalism in China. 42:30
Modern meat. 43:44
Schenk, George
Complete shade gardener. 42:107
Schiffer, Michael B.
Archaeology. 42:104
Schmookler, Andrew Bard
Parable of the tribes. 43:71
Schneider, Stephen H.
Coevolution of climate and life. 42:95
Schools
How to grade your school. 41:120
Schultz, Ted*
Busting fortune tellers. 42:52
Schwartz, Brian
China off the beaten track. 41:112
Science
Information as a communicable disease. 42:98
US/USSR bi-national research park in the Bering Strait. 43:70
Science — Education
Using LOGO, making science. SR3:92
Science — Equipment and Supplies
ATARILAB SR3:120
Science Fiction — Book Reviews
Marriages between zones three, four and five. 42:11
Neuromancer. 44:39
Second Self 44:39
Secrets of the Show Cars 41:111
Seequa Chameleon SR1:73
Semiotext(e) 44:72
SEQUITUR SR3:23
DBase Phoenix. 44:83
Seward, John*
Commodore 64: first disposable computer? SR2:43
Sewing — Book Reviews
Clothes for disabled people. 44:64
Complete book of sewing short cuts. 41:118
Dressmaker's dictionary. 41:118
Sewing — Equipment and Supplies
Imports by Clotilde. 41:119
Sex — Book Review
Facts of life. 44:61
Shackelton, Philip
Canoe. 44:69
Shaeffer, Claire B.
Complete book of sewing short cuts. 41:118
Shagas, Kathryn
Social stratification in the U.S. 42:66
Shame of word processors.**
Feldman, Saul D. SR3:42
Sharp, Andrea*
Welcoming the new domain editor. 44:85
Sharp, Pamela*
Baby LOGOs. SR3:90
Sharp PC-5000
Inside. SR3:65
Sheaffer, John R.
Future water. 43:11
Sheffield, Charles
Man on earth. 41:93
Sheppard, Judy
Silver threads among the gold. 41:31
Sherman, Jack
Theaterwork 43:108
Ships — Periodical Review
Sail Assistance News. 43:99
Shortwave Radio — Equipment and Supplies
Sony ICF-2002 AM-FM shortwave radio. 41:113
Shortwave Radio — Periodical Reviews
International shortwave listener's program guide. 43:113
Shown, Janet
Freelance foodcrafting. 43:44
Shurcliff, William A.
Super solar houses. 41:73
SIDEKICK
Will we love them in December as we did in May? 44:86
Signs
Trail of rising and falling birds. 42:1
Sikor, Stephen
Letter Exchange. 42:116
Silver Threads Among the Gold 41:31
Silverman, Mel*
Trolls under the bridge. SR3:30
Simple Living Investments for Old Age 44:62
Sinclair Computers
Inside. SR2:65
Sinclair QL
Inside. SR3:65
Six grave doubts about computers.**
Mander, Jerry 44:10
Skiing — Book Review
Skiing right. 44:68
Skull and crossbones flying high.**
Spezzano, Charles SR2:124
Skyguide 41:92
Small Businesses
Surviving in small business. 41:14
Small Presses — Periodical Review
Small Press. 43:112
SMART INTEGRATED SYSTEM
Will we love them in December as we did in May? 44:86

SMARTCOM II
Telecommunicating update. SR3:41
SMARTKEY II SR3:50
Smith, Dan
War atlas. 41:58
Smith, Dave*
My daily affairs with a Compaq. SR1:64
Smith, Irene and Keith Vincent
Earth garden. 41:77
Snores of perception.**
Igou, Woody 43:114
Snyder, Gary*
Grace. 43:1
Song of the taste. 43:1
Social Life of Small Urban Spaces 41:28
Society
Just me and my machine: the new solipsism. 44:29
Public image. 44:32
Society — Book Reviews
Rise of the computer state. 44:38
Sociology — Book Reviews
Evolution of cooperation. 43:71
Sociology — Poster — Review
Social stratification in the U.S. 42:66
Soft Bathtubs 43:87
Softalk*, we hardly knew ye.*
Kleiner, Art 44:75
Software dating game.**
Dalton, Richard SR1:6
Software developer's viewpoint.**
Diamond, Gerald C. SR2:123
Software Piracy
Is it stealing? SR2:122
Piracy and backup in the Fortune 1000. SR2:126
Skull and crossbones flying high. SR2:124
Software developer's viewpoint. SR2:123
Software taxonomy.**
Brand, Stewart SR1:4
Software that ought to be: BLUE PENCIL.**
Levy, Steven SR3:1
Soil
Land wisdom vs. lab success. 43:52
Soil Erosion — Book Review
Soil erosion. 42:105
Solait Nonelectric Yogurt Maker. 41:21
Solar Collectors
Pulstar. 41:74
Solar Energy — Software Review
SUNPAS. SR3:78
Solar Heating — Book Reviews
Complete handbook of solar air heating systems. 41:73
Solar hot water handbook. 43:88
Super solar houses. 41:73
Solar Water Heating — Equipment and Supplies
Zomeworks tide tank. 44:70
Something for everyone.**
Spezzano, Charles SR1:47
Sommers, Larry
Community garden book. 42:106
Song of the taste.**
Snyder, Gary 43:1
SORT2+ SR3:17
Source, The
Mr. Download: an interview with William von Meister. SR1:88
SOURCEMAIL SR2:22
Southeast Asia — Book Review
South-east Asia handbook. 41:112
Spawning of Lumena.**
Kleiner, Art 44:90
Speeches, Addresses, Etc. — Book Review
Overnight guide to public speaking. 41:117
Spelling — Software Reviews
MAGIC SPELLS. SR1:109
Spezzano, Charles
Breaking the chains that bind. SR2:31
Fifteen word processor commandments. SR1:38
Playing hardball. SR1:54
Sales Edge: selling in the twilight zone. SR2:108
Skull and crossbones flying high. SR2:124
Something for everyone. SR1:47
Transparent onion. SR1:22
Trolls under the bridge. SR3:30
Spies and Spying — Book Review
Man called Intrepid. 41:55
Spiritual Life
Grace. 43:1
Spiritual Life — Humor
Snores of perception. 43:114
Spirituality — Book Review
Classics of western spirituality. 44:56
Gratefulness, the heart of prayer. 44:56
Spirituality — Organizations
AA: a model spiritual organization. 42:74
Waiting for the sting. 41:36
Spirn, Anne Whitson
Granite garden. 43:62
Splash
Good movies: spring. 41:114
Sports — Book Review
Water sports for the disabled. 42:13
SPOTLIGHT
Will we love them in December as we did in May? 44:86
Spreadsheets — Software Reviews
MICROSOFT MULTIPLAN. SR3:107
MINIVC. SR3:114
Spretnak, Charlene
Green politics. 43:72
Spring, Vicky
Bicycling the Pacific coast. 43:98
SPRITE LOGO SR3:89
St.Mac SR3:111
Stamaty, Mark Alan
Washingtoon. 41:42
Stanford, Michael
User-friendly guide to lap portables. SR3:100
Starting FORTH SR1:97
State of the Art 42:115
State of the World 41:59
Steindl-Rast, David
Gratefulness, the heart of prayer. 44:56
Stevenson, Charles*
Printer pro's picks. SR2:100
Stevenson, David
Composing music. 43:109
Stevenson, William
Man called Intrepid. 41:55
Steves, Rick
Europe through the back door. 43:97
Stibic, Vladimir
Personal documentation for professionals. 41:118
Stites, Richard*
Huis and means in Taiwan. 41:18
Stockford, James*
Mail-order buying primer. SR1:112
Stolzenberg, Mark
Clown. 41:123
STORY MAKER 44:96
Stranger Than Paradise
Good movies: fall. 43:118
Strangers Kiss
Good movies: spring. 41:114
Street Signs Chicago 41:28
Stukane, Eileen
Premenstrual syndrome. 42:22
Sugar Cane Alley
Good movies: summer. 42:124
Sullivan, William L.
Cart book. 41:69
Sullivan, Woodruff T. III*
Endangered night skies. 43:12
Summer price crash.**
Dalton, Richard 44:76
Summit Controls Wind Data Logger 42:82
SUNDOG 44:80
SUNPAS SR3:78
Sunsets, Twilights, and Evening Skies 44:57
Super Solar Houses 41:73
SUPERCALC
Inside. SR1:65
SUPERFILE SR3:26
Superinsulated House 42:85
Surviving in small business.**
Hawken, Paul 41:14
Swaine, Michael
Fire in the valley 43:21, SR3:58
Swift, Kate
Words and women 42:117
SYMPHONY 44:87
Cheapest may be best. 44:82
Will we love them in December as we did in May? 44:86
Synonym Finder 44:72
Szanto*
Grey-haired oil sheik of Downing Street. 42:48
Not a job for the cavalry. 43:66



Take Care of Your Heart 42:12
Tattoos — Periodical Review
Tattootime. 42:126
Taylor, John S.
Commonsense architecture. 44:71
Taylor, Susan
Consumer's guide to earth sheltered housing. 44:70
Teach 'em work skills while they're young.**
Scarola, Robert 44:95
Teachers and Teaching
Using LOGO, making science. SR3:92
Techniques and Equipment for Wilderness Horse Travel 43:99
Teenagers — Book Review
One teenager in 10. 41:32
Telecommunicating.**
Kleiner, Art SR2:6
Telecommunicating update.**
Kleiner, Art SR3:41
Telecommunicating with the Radio Shack 100.**
Kleiner, Art SR2:90
Telecommunications
Beyond the busy signal: new kinds of voice services. SR1:85
Computer conferencing systems. SR2:24
Housebound. 44:21
How computers made this article. SR1:34
Mr. Download: an interview with William von Meister. SR1:88
Protocol. SR2:13
Shame of word processors. SR3:42
Telecommunications — Book Review
Complete handbook of personal computer communications. SR2:21
Telecommunications — Periodical Review
Teleconnect. 41:113
Telecommunications — Software Reviews
ASCII Express "The Professional."
Z-Term "The Professional." SR2:20
COMMANDER ULTRA TERMINAL. SR3:115

CompuServe's boon for free-software lovers. 44:93
Crosstalk XVI/Crosstalk 3.0. SR2:18
Enter Freeware. SR1:120
Hayes Smartcom II. SR2:15
MACTEP. SR3:112
MUTE. SR2:12
MODEM7. SR2:13
Most popular public domain program. SR1:122
PC-TALK.III, etc. SR2:17
PERSON-TO-PERSON. SR3:40
Post-Plus/DBLCOM. SR2:14
TELEPHONE SOFTWARE CONNECTION TERMINAL PROGRAM SR2:17
Transend PC; Personal Communications Manager. SR2:16
VIDTEX. SR2:18

Telecommunications coverage at the Review.**
Kleiner, Art SR1:86

Teleconnect 41:113

Telephone — Book Review
Forecasting the telephone. 44:38

Telephone Industry
Beyond the busy signal: new kinds of voice services. SR1:85
Next phone company. SR1:77
Next telephone bill. SR1:78

Teleram 3100 SR2:91

Television Sets
Inside. SR3:65

Tents
Beckel Canvas Products. 42:77

Termination Trap 43:45

TERRAPIN LOGO SR3:88
Enabling computers. SR2:48

Thatcher, Margaret
Grey-haired oil sheik of Downing Street. 42:48

Thear, Katie
Cheesemaking. 44:65

Theater
Indigenous theater. 43:100

Theater — Book Reviews
French's basic catalogue of plays. 42:128
We are strong 43:108

Theater — Periodical Review
Theaterwork 43:108

Theology — Book Review
Theology in a new key. 41:33

THINKTANK SR2:56, SR3:27
DBase Phoenix. 44:83

Third World — Book Review
Washington connection and Third World fascism. 41:53

This Is Spinal Tap
Good movies: spring. 41:114

Thomas, Levi*
Breaking in. SR3:60

Tobias, Andrew
Only investment guide you'll ever need. 44:62

Tobin, David
Barter network handbook. 44:63

Todd, John*
Voyage of the first ocean pickup. 41:62

Todd, John and Nancy Jack
Bioshelters, ocean arks, city farming. 43:91

Tools — Book Review
Keeping the cutting edge. 43:87

Torture in the Eighties 42:38

Total Access SR1:117

Totten, Sam and Martha Wescoat
Facing the danger. 42:66

Towards a theory of history.**
Colinvaux, Paul A. 41:94

Toyota Tercel
Tercel lives on. 41:69

Toyota Van Wagon
Vanlets. 41:70

Trail of rising and falling birds.**
Nading, Lee 42:1

TRANSEND PC SR2:16

TRANSEND PC COMPLETE
CompuServe's boon for free-software lovers. 44:93

Transparent onion.**
Brand, Stewart et al. SR1:22

Traum, Happy
Homespun Tapes. 41:116

Travel — Book Reviews
Getting into America. 44:66
Just in case. 44:66
U.S. and world wide travel accommodations guide. 43:97
Work your way around the world. 41:109

Trees
Frysville hybrid poplars. 41:76

T.REX
Featured program: T.REX. SR2:1
Problem-solving simulations. SR2:69

Troise, Joe*
Computer-assisted design (CAD) programs. SR3:79
"Computerized architractor." SR3:80
When you come to the barnraising, bring your micro. SR3:74

Trolls under the bridge.**
Kleiner, Art et al. SR3:30

Trouble with LOGO.**
Scarola, Robert SR3:89

TRS-80 Model 100 SR2:89

Trucks
Vanlets. 41:70

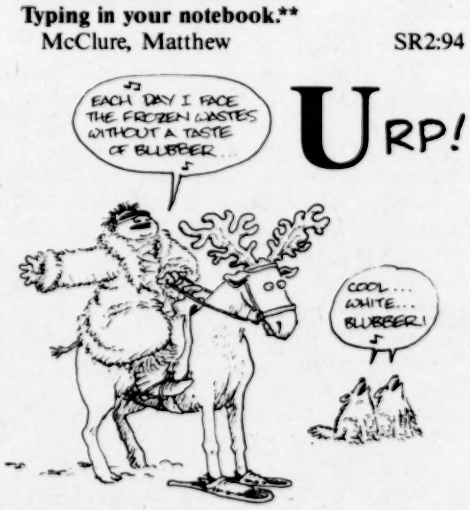
Tufte, Edward R.
Visual display of quantitative information. 43:111

Turkle, Sherry
Second self. 44:39

TURTLE POWER SR3:91

TURTLE TOYLAND JR. SR3:90

Typing in your notebook.**
McClure, Matthew SR2:94



Uncommon bench.**
Retondo, Pete 43:78

Under the Gun 41:42

Under the Volcano
Good movies: fall. 43:118

Upstart Spring 41:122

Upward mobility.**
Milburn, Ken 44:89

Urban Design — Book Reviews
Granite garden. 43:62
Social life of small urban spaces. 41:28

Urdang, Lawrence
Synonym finder. 44:72

U.S. and World Wide Travel Accommodations Guide 43:97

USDA Forest Service
Techniques and equipment for wilderness horse travel. 43:99

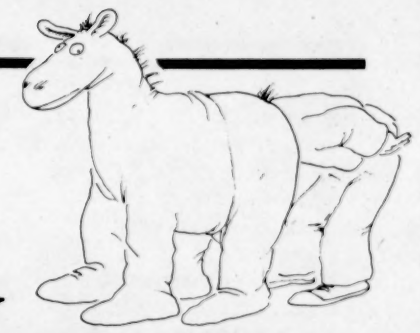
User-Friendly Guide to Lap Portables SR3:100

User's Guide SR3:102

Using EIES.**
Kleiner, Art SR1:31

Using LOGO, making science.**
Scarola, Robert SR3:92

US/USSR bi-national research park in the Bering Strait.**
Roberts, Walter Orr 43:70



VETERINARIAN

Valley Women 41:32

Van der Plas, Rob
Mountain bike book. 44:68

Vanlets.**
Baldwin, J. 41:70

Vehicles — Book Review
Cart book. 41:69

VERSABRAILLE
Enabling computers. SR2:48

VERSAFORM SR3:16

VICMODEM SR3:115

Video
One picture is worth 106 words. SR2:96

Video — Book Review
Independent film and videomakers guide. 43:108

Video Games
Games and learning for children. SR1:99
New space invaders — is computer-video technology pushing the family out of the home? SR1:103

VIDEOSHOW 44:91

VIDTEX SR2:18
CompuServe's boon for free-software lovers. 44:93

Viewscan Text System
Enabling computers. SR2:48

Vining, Donald
American diaries of World War II. 41:56

Virtual business.**
Cowan, Robert SR2:27

Visual Display of Quantitative Information 43:111

Volkswagen Vanagon
Vanlets. 41:70

VOLKSWRITER DELUXE
Writing tools. SR1:8

Von Meister, William
Mr. Download: an interview with William von Meister. SR1:88

Voyage of the first ocean pickup.**
Todd, John 41:62

WHACK!

Waite, Mitchell
CP/M bible. SR3:101

Waiting for an Army to Die 41:75

Waiting for the sting.**
Factor, Donald 41:36

Walker, George*
Coffin. 42:10

Walker, Tom
Building the Alaska log home. 43:86

Walking — Book Review
On foot through Europe. 42:76

Wallace, Nancy
Better than school. 42:113

Walsh, Birrell*
Monkey trap or the mystical engine? 44:1

Wanderman, Richard*
Word processing computers as remedial writing tools. SR1:40
War — Book Reviews
Children of war. 41:58
Intelligence warfare 43:72
War atlas. 41:58
Washington connection and third world fascism 41:53
Washingtoon 41:42
Watter Charger
Micro hydro. 42:82
Water Sports for the Disabled 42:13
Water Supply — Book Reviews
Future water. 43:11
Ground water. 43:11
Way of the Animal Powers 41:108
We Are Strong 43:108
Weil, Andrew
Health and healing. 43:37
Weiss, Kay
Women's health care. 42:23
Welcoming the new domain editor.**
Kleiner, Art and Sharp, Andrea 44:85
West, Ruth
Alternative health guide. 42:23
Weston, Anthony*
Beyond hyphenization. 41:30
Transparent onion. SR1:22
Wexo, John
Zoobooks. 44:58
What we use ourselves: inexpensive software insurance.**
Parks, Kathy SR3:132
Wheelchairs
Liberating wheelchairs. 43:93
Wheelis, Mark
Cartoon guide to genetics. 43:20
When you come to the barnraising, bring your micro.**
Troise, Joe SR3:74
Where Have All the Wildflowers Gone? 41:78
Where There Is No Dentist 43:37
Whiteley, Opal
Opal. 43:128
Whitford, Ellen V.*
Computer games make reading fun. SR1:109
Who do you think you are?**
Bosco, Freddy 43:130
Why and how this magazine is non-profit.**
Brand, Stewart SR1:125
Why the IBM PC is a lousy standard for the industry.**
Dalton, Richard SR1:50
Whyte, William H.
Social life of small urban spaces. 41:28
Wiese, Michael
Independent film and videomakers guide. 43:108
Wilcox, Fred A.
Waiting for an army to die. 41:75
Wild Style
Good movies: spring. 41:114
Wilderness — Book Review
Random House guide to natural areas of the eastern United States. 42:78
Wilderness — Periodical Review
Women in the wilderness newsletter. 41:109
Wildlife — Periodical Review
Zoobooks. 44:58
Will the real PC DOS please stand up?**
Dalton, Richard SR1:52
Will we love them in December as we did in May?**
Rufener, Sharon 44:86
Williams, Greg and Pat
HortIdeas. 42:107
Williams, Heathcote*
Elephants. 41:80
Williamson, Ray A.
Living the sky. 43:18
Wilson, James
Ground water. 43:11
Wilson's Computer Business SR1:113
Wind Energy — Equipment and Supplies
Summit Controls wind data logger. 42:82
Winner, Langdon*
Mythinformation. 44:22
Winter's Tale 42:11
With A Daughter's Eye 43:20
Witness
Politics of religion. 42:67
Wohlmuth, Ed
Overnight guide to public speaking. 41:117
Wollitz, Kenneth
Recorder book. 42:128
Women
Grandma's boy. 43:46
Housebound. 44:21
Meetings with remarkable cat ladies. 42:24
Women in forestry 42:105
Women — Book Catalog
Valley women. 41:32
Women — Periodical Reviews
Plainswoman. 41:32
Women in forestry. 42:105
Women in the wilderness newsletter. 41:109
Women's Health — Book Reviews
Menopause, naturally. 44:60
Premenstrual syndrome. 42:22
Women's health care. 42:23
Wood Burning — Equipment and Supplies
Frysville hybrid poplars. 41:76
Wood Stoves
Catalytic woodstoves. 43:89
DSA Pejse stoves. 42:84
Woodworking
Push stick. 43:92
Woodworking — Equipment and Supplies
Livos organic wood finishes. 44:70
Woodworking — Book Reviews
Japanese woodworking tools. 42:83
Keeping the cutting edge. 43:87
WORD CHALLENGE SR1:129
WORD JUGGLER
Writing tools. SR1:8
WORD PLUS
Writing tools. SR1:8
Word Processing
And now for something completely different. SR1:42
Fifteen word processor commandments. SR1:38
How computers made this article. SR1:34
Shame of word processors. SR3:42
Software that ought to be: BLUE PENCIL. SR3:1
Word processing computers as remedial writing tools. SR1:40
Word Processing — Book Review
Introduction to WordStar. SR3:103
Word Processing — Education — Software Review
KIDS ON KEYS. 44:95
Word Processing — Software Reviews
BANK STREET WRITER. 44:96
DISPLAYWRITER2. SR3:48
MILLIKEN WORD PROCESSOR. 44:96
PC-WRITE. SR3:48
PCWRITER. SR3:48
RAM. SR1:87
THINKTANK. SR2:56
Writing tools. SR1:8
Writing tools update. SR2:54
Word processing computers as remedial writing tools.**
Wanderman, Richard SR1:40
WORDPERFECT
Writing tools. SR1:8
Words and women 42:117
WORDSTAR
Writing tools. SR1:8
WordStar — Book Review
Introduction to WordStar. SR3:103
WORDVISION
Three availability problems. 44:81
Writing tools. SR1:8
Work Your Way Around the World 41:109
Workslate 42:90
Cheapest may be best. 44:82
World Status Map 43:97
World War II
Access to WWII. 41:54
World War II — Book Reviews
American diaries of World War II. 41:56
History of the Second World War. 41:57
Kamikaze. 41:54
Man called Intrepid. 41:55
Partisans and guerrillas. 41:56
State of the world. 41:59
Wright, James D.
Under the gun. 41:42
Writers and Writing
Difference between writing and building racing engines. 42:80
Rejection letters to famous people. 42:118
Writers and Writing — Book Reviews
Becoming a writer. 41:117
The handbook of nonsexist writing 42:117
Words and women 42:117
Writing on the Adam.**
Brand, Stewart SR2:42
Writing tools.**
Brand, Stewart SR1:8
Writing tools update.**
Brand, Stewart SR2:54

XENOPHOBE AND JUGGLER YZ

Xerox 1810/1845 SR2:94
XMODEM
CompuServe's boon for free-software lovers. 44:93
Yepsen, Roger B. Jr.
Encyclopedia of natural insect and disease control. 43:64
Yogurt — Equipment and Supplies
Solait nonelectric yogurt maker. 41:21
Young People — Organizations — Canada
Katimavik. 42:109
Younger, Erin
Hopi voices 42:86
Your Atari Computer SR3:100
Your IBM PC Made Easy SR3:101
Zaugg, Andy
Complete handbook of solar air heating systems. 41:73
Zito, Tom*
Beautifully crafted lightweight computer. SR3:104
Zomeworks Tide Tank 44:70
Zoobooks 44:58
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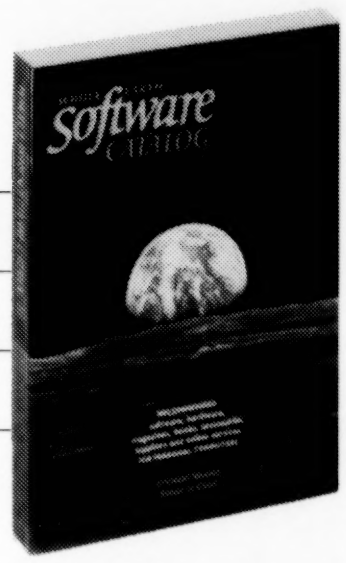

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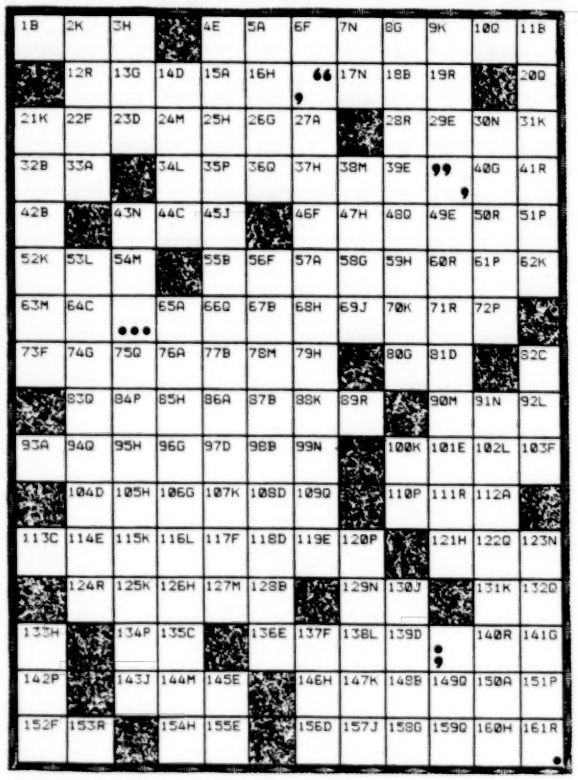
WHAT'S THE

POINT PUZZLE

by Mark Brady

This puzzle is mostly about the *Whole Earth Review*, nee *CoEvolution Quarterly*. To solve it, simply answer as many of the clues as you can and enter the letters on the dashes that make up the words. Next, transfer each letter to the correspondingly numbered square on the puzzle grid below to spell a quotation of particular significance reading from left to right. Black squares separate words in the quotation. Work back and forth between the grid and the clues to complete the puzzle. *Important:* To help with the solving, realize that the initial letters of each of the words in the word list spell the title of the esteemed source from which the quotation comes. Happy puzzling!



CLUES

A. SEWER, SEPTIC OR LAND FILL PURPOSE

B. ASTRONOMICAL EVENT DUE AGAIN IN 1986 (2 WDS.)

C. BIG-TIME JAPANESE LENS-MAKER - DEFUNCT IN '84

D. SAVE THIS FOR THE DRIFTERS (2 WDS.)

E. BIG BUSINESS EXPERT'S MANNER

F. DARWINIAN / WHOLE EARTH REVIEW CONCERN

G. SOPHIE'S OFFICE MANAGER MOM (2 WDS.)

H. BLEU CHEESE SALAD GARNISH (2 WDS.)

J. C.L. SULZBERGER'S: THE _____ MERCHANT

K. THE CROSSROADS OF THE PACIFIC (2 WDS.)

L. MR. STILTSKIN'S GIVEN NAME

M. RICHARD WATSON'S ISSUE #45 CONCERN

N. HOW A HUNGRY HACKER PROGRAMS: WITH _____

P. MARYAT LEE'S PLAY WITHOUT ACTORS: ___ THEATRE

Q. PINUS SEROTINA: SCRUB, WHITE OR PITCH E.G. (3 WDS.)

R. WHAT'S YELLOW AND WRITES APPEALING COEV POETRY? (2 WDS.)

WORDS

A. 112 5 27 150 33 - 57 65 93 76 15 86

B. 128 87 98 18 148 67 ' 42 55 1 32 11 77

C. 135 64 113 44 82

D. 97 23 81 108 156 14 118 104 139

E. 145 4 155 101 136 49 29 39 119

F. 117 6 152 103 137 73 46 56 22

G. 26 141 13 74 106 96 158 40 80 8 58

H. 3 59 146 95 16 121 154 85 68 79 105 25 133
37 126 47 160

J. 130 157 45 143 69

K. 125 31 62 52 88 2 115 147 ' 131 21 100 107 70 9

L. 138 53 116 34 102 92

M. 78 24 38 - 90 63 144 114 127 54

N. 91 7 123 17 30 129 43 99

P. 151 134 142 51 72 61 110 35 84 120

Q. 109 132 149 10 83 122 159 48 94 20 36 66 75

R. 124 111 60 50 161 89 19 28 41 153 12 71 140

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684 Y40 M60 C10

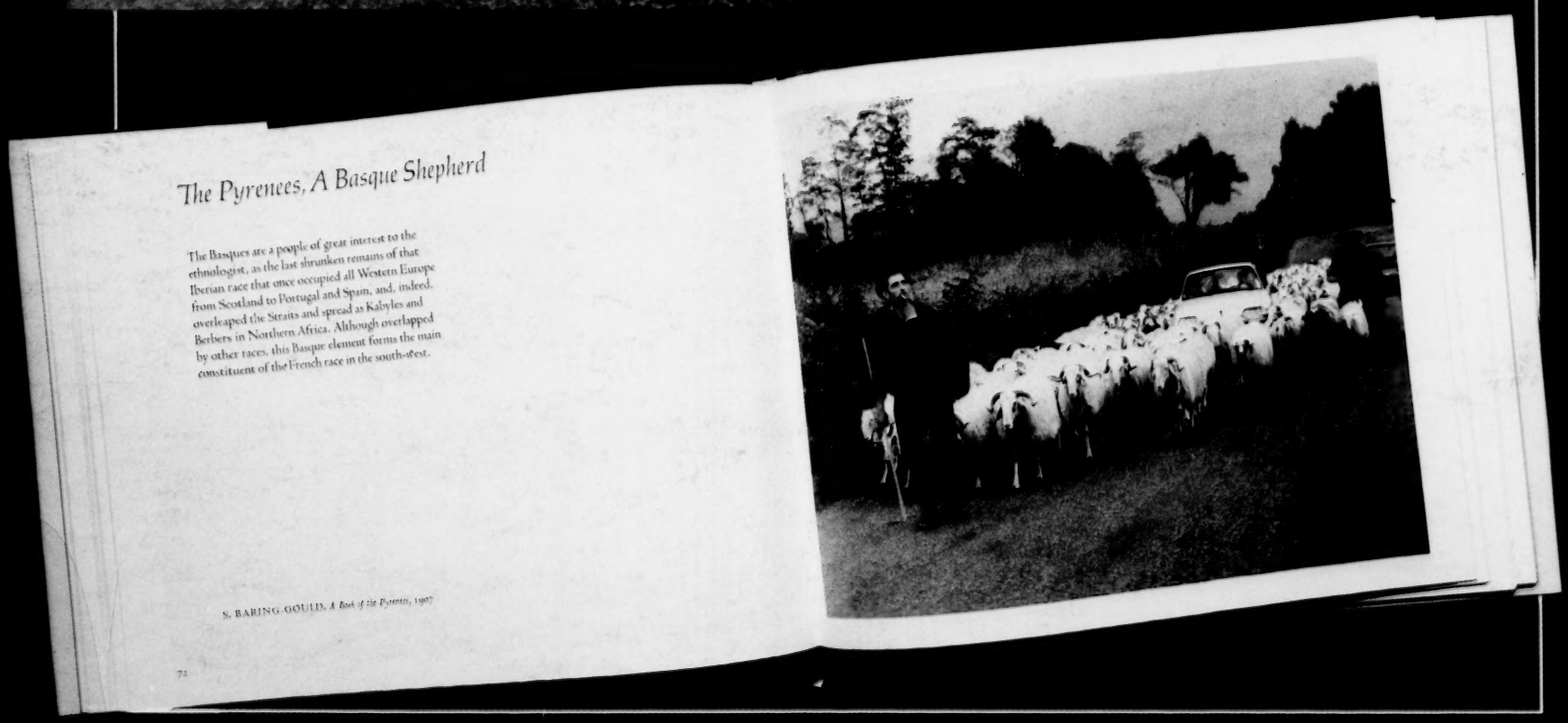
Y30 M60 C80

687 C70 BL30

683 Y30 C40 BL50

DIGITAL RETOUCHING

This Basque shepherd with and without telephone poles is an example of editorial use of the new techniques of retouching photographs with computers. The book is a gorgeous one — *Idylls of France*, photographed, edited, and published by Proctor Jones (1982, $29.95), photolithography by Pacific Lithographic Company, San Francisco. Elsewhere in the book, litter in a streambed was electronically removed . . . as we would no doubt edit it out of our memory if we had once viewed the scene personally. What's right?


The Pyrenees, A Basque Shepherd
The Basques are a people of great interest to the ethnologist, as the last shrunken remains of that Iberian race that once occupied all Western Europe from Scotland to Portugal and Spain, and, indeed, overleaped the Straits and spread as Kabyles and Berbers in Northern Africa. Although overlapped by other races, this Basque element forms the main constituent of the French race in the south-west.
S. BARING GOULD, A Book of the Pyrenees, 1907
72

688 Y80 M80 C30

690 Y80 M80 BL90

The color bars across the top and bottom of our back cover are just a few of the thousands of color combinations in the *Designer's Guide to Color*, reviewed on page 89 inside.